Summer Programs
for the
Severely Handicapped

Planning Services

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SUMMER PROGRAMS

FOR THE

SEVERELY HANDICAPPED

Evaluation Report

by

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FOREWORD

The study contained in this present report was planned, designed and executed by educators. Hence the purpose of the study was to ascertain what occurs during the summer months to those skills and behaviors of severely handicapped children which are the focus of school-year programs for them. An intensive study of the published research literature supported the notion that prevention of regression in these areas was the primary reason for existence of summer programs for severely handicapped children.

This purpose needs to be borne in mind as the report is read since some of the summer programs which were attended by a number of subjects in the study did not have as goals behavior and skill retention/improvement. Instead, programs herein designated as Low Structure and Short programs had integrated recreation with its consequent benefits as their primary goal. These aspects were not directly measured by this study, although they were frequently mentioned by questionnaire respondents and observed by researchers visiting programs. Goals such as these are not necessarily any less valid or beneficial than the goals chosen for the focus of this study.

L.Z.

ABSTRACT

A quasi-experimental study of the effects of summer programs on the behaviors and skills of severely handicapped children revealed evidence of retention and improvement in children from the more highly structured programs which emphasized skills and behaviors when these were measured immediately following programs. The positive effects were maintained midyear for skills but not for behaviors. For recreational programs which did not focus on skills and behaviors, there was regression in behaviors immediately following summer programs but the losses were reversed at midpoint in the subsequent school year. Although more students from all programs retained than lost skills, those from the more highly structured programs gained skills more frequently than any others and they retained this favorable position during the subsequent school year.

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SUMMARY

A quasi-experimental pretest, posttest, delayed posttest design was utilized to study the differential effects of various types of summer programs in Alberta on the skills and behaviors of severely handicapped children. Figure 1 on the following page portrays the timeline and activities for the two phases of the study.

Programs were categorized by their orientation and by their length, resulting in five groupings: six-week High Structure (educational skill and behavior goal-oriented), Medium Structure (mixed recreational and educational), and Low Structure (recreational) Programs, as well as Short Programs (two to four weeks duration), and No Program groups. A total of 186 children were retained in the follow-up phase of the study from the original 201 subjects. Table 1 depicts the numbers of children who were part of the entire study by program types.

Table 1

Number of Students in Each Sample Group

No Program	Short Program	High Structure	Medium Structure	Low Structure*	Total
54	44	21	32	35	186

*Note. Low Structure programs emphasized recreational program goals which were distinctly different from the skill and behavior retention and improvement that were objects of this study.

Figure 1

Timeline of Activities

	Phase 1: 1983						
	April	May	June	July	Aug.	Sept.	Oct.
Design study and instruments	--	--					
Request permissions		-					
Train observers		--					
Establish reliability		-					
Record baseline (pretest) data			----				
Train third observer			-				
Implement summer programs				----	----		
Record processes & procedures: visit, observe & interview				----	----		
Questionnaire survey				---	----	--	
Collect posttest data					--	----	
Data analysis							--
Report preparation							--

	Phase 2: 1984				
	Jan.	Feb.	March	April	May
Approval of follow-up study	-				
Design follow-up study	-	-			
Request permissions		-			
Train observers		-			
Establish reliabilities		-			
Collect delayed posttest data		-	---		
Data analysis				--	
Report preparation				--	----

Summer Program Impact on Inappropriate Behaviors

Observation of inappropriate behaviors took place in the school setting prior to and following summer programs, as well as midway during the subsequent school year. These were recorded on the Inappropriate Behaviors Observation Checklist developed for this study.

This instrument was developed by utilizing and revising items from a number of published and unpublished instruments suitable for the assessment of behaviors of various types of handicapped children. At every stage of its development, revised items were repeatedly field tested on a group of children of all ages for whom the instrument was being prepared.

The final form of the instrument provided for recording the following inappropriate behaviors: passive (PASS), active (ACT), self-abusive (SAB), personal (PER), repetitive (REP), interpersonal (INT), as well as total inappropriate behaviors (TOT).

Reliability of Observations

Interobserver agreement measures were taken twice following the development of the final form of the instrument and the training of observers. For Phase 1 of the study, one of the checks on reliability occurred just immediately prior to the beginning of observations. The second was two weeks after observations began when a third researcher was trained and hired. For Phase 2 of the study, follow-up interobserver agreement data were collected immediately prior to the collection of midyear data after training of observers.

Table 2 summarizes the percentage agreement between pairs of observers in both phases of the study. Percentage agreement was generally high except where occurrence of behaviors was infrequent, causing magnified percentages for small differences.

Table 2

Interobserver Percentage Agreement for Behaviors

Behaviors	PASS	ACT	SAB	PER	REP	INT	TOT
Phase 1: First Measure							
Raters #1 & #2	98	100	100	94	92	100	98
Phase 1: Second Measure							
Raters #1 & #2	92	100	100	73	87	67	88
#1 & #3	82	75	100	91	73	67	78
#2 & #3	75	75	100	72	85	100	88
Phase 2							
Raters #1 & #2	98	90	75	93	93	100	99
#1 & #3	95	94	75	98	93	100	99
#2 & #3	94	85	100	95	100	100	100

Note. Where agreement was low, occurrence of behaviors was infrequent.

Results of Statistical Analysis on Inappropriate Behaviors

Do summer programs prevent regression or improve severely handicapped children's behaviors? Are beneficial effects retained over time?

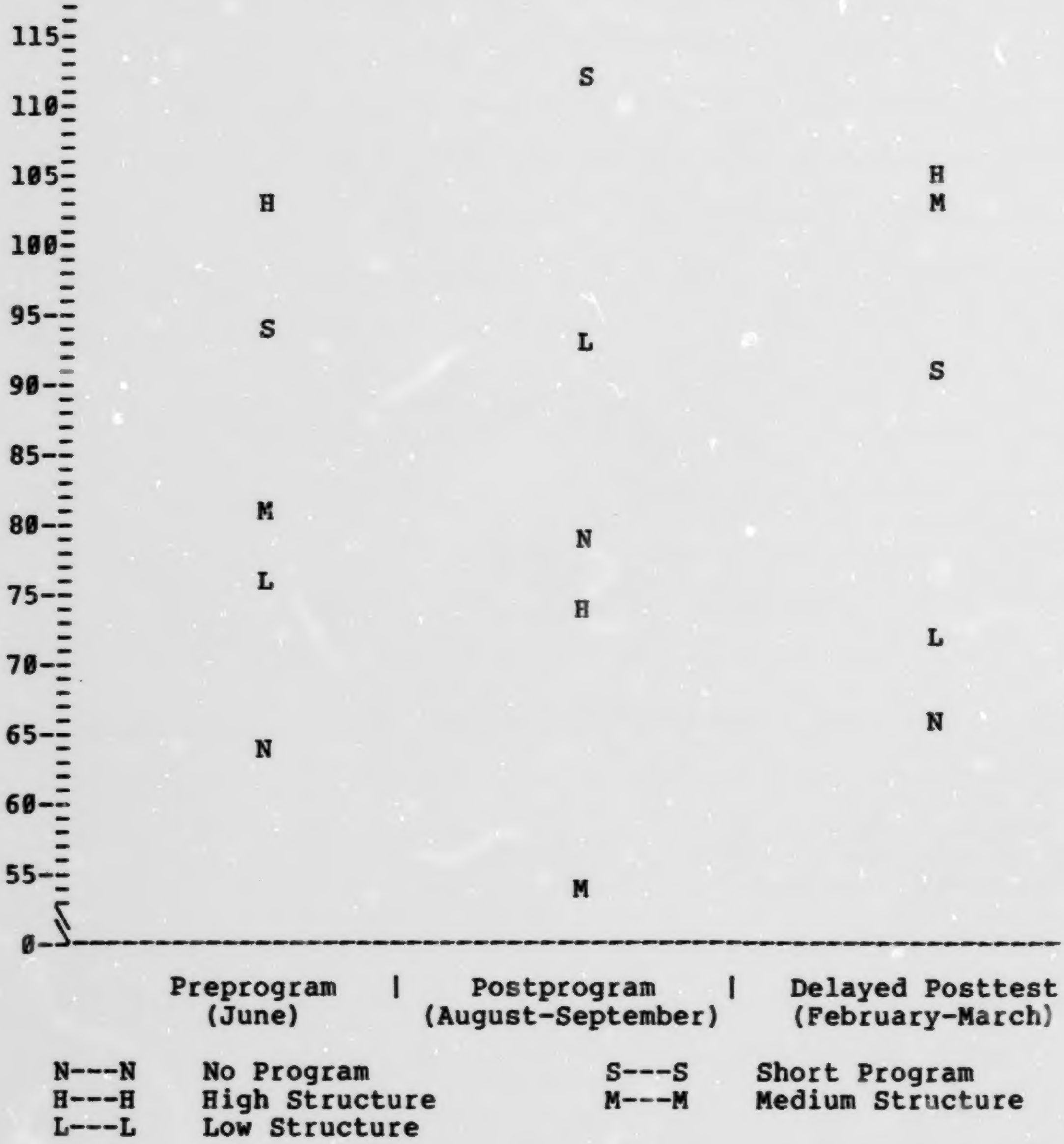
Post-summer Phase 1 statistical analysis revealed that the immediate impact of summer programs on inappropriate behaviors was significantly better in High and Medium Structure summer program groups than in the No, Short and Low Structure program groups. In effect, High and Medium Structure programs produced a decrease in inappropriate behaviors while children in the other programs as well as those in no programs increased their inappropriate behaviors. High and Medium Structure groups combined had a significantly greater percentage of children reducing the number of total inappropriate behaviors predicted for them than did those in the combined No, Short and Low Structure program groups.

The follow-up Phase 2 portion of the study, based on observations recorded five to six months later revealed a reversal of trends in inappropriate behavior changes. Inappropriate behavior group means for High and Medium Structure programs increased during the fall and winter while inappropriate behavior means of No, Short and Low Structure Program groups decreased. All programs basically returned to their pre-summer inappropriate behavior levels. Figure 2 depicts graphically the data relative to inappropriate behaviors at the three points of data collection, utilizing averages for subjects who were part of the entire study.

Figure 2

Total Inappropriate Behaviors

Pretest, Posttest, Delayed Posttest Means



Summer Program Impact on Skills

Another important area for the education of severely handicapped children is that of basic skills. These skills (gross and fine motor, eating, toileting, dressing, receptive and expressive communication, interpersonal interaction and classroom behavior) are the objective of school programs and are constantly being assessed by teachers in the classroom. Teachers were considered to be in the best position to know what actually occurred in skill levels of children in their classrooms. Therefore, perceptions of changes in skill levels following summer programs and midway during the school year were obtained from classroom teachers utilizing a checklist covering the skills needed for independent functioning. For the two phases of the study, Figure 3 graphically portrays the percentages of children for each program group who lost, retained and gained for all skills combined.

Do summer programs prevent regression or improve severely handicapped children's skills? Are beneficial effects retained over time?

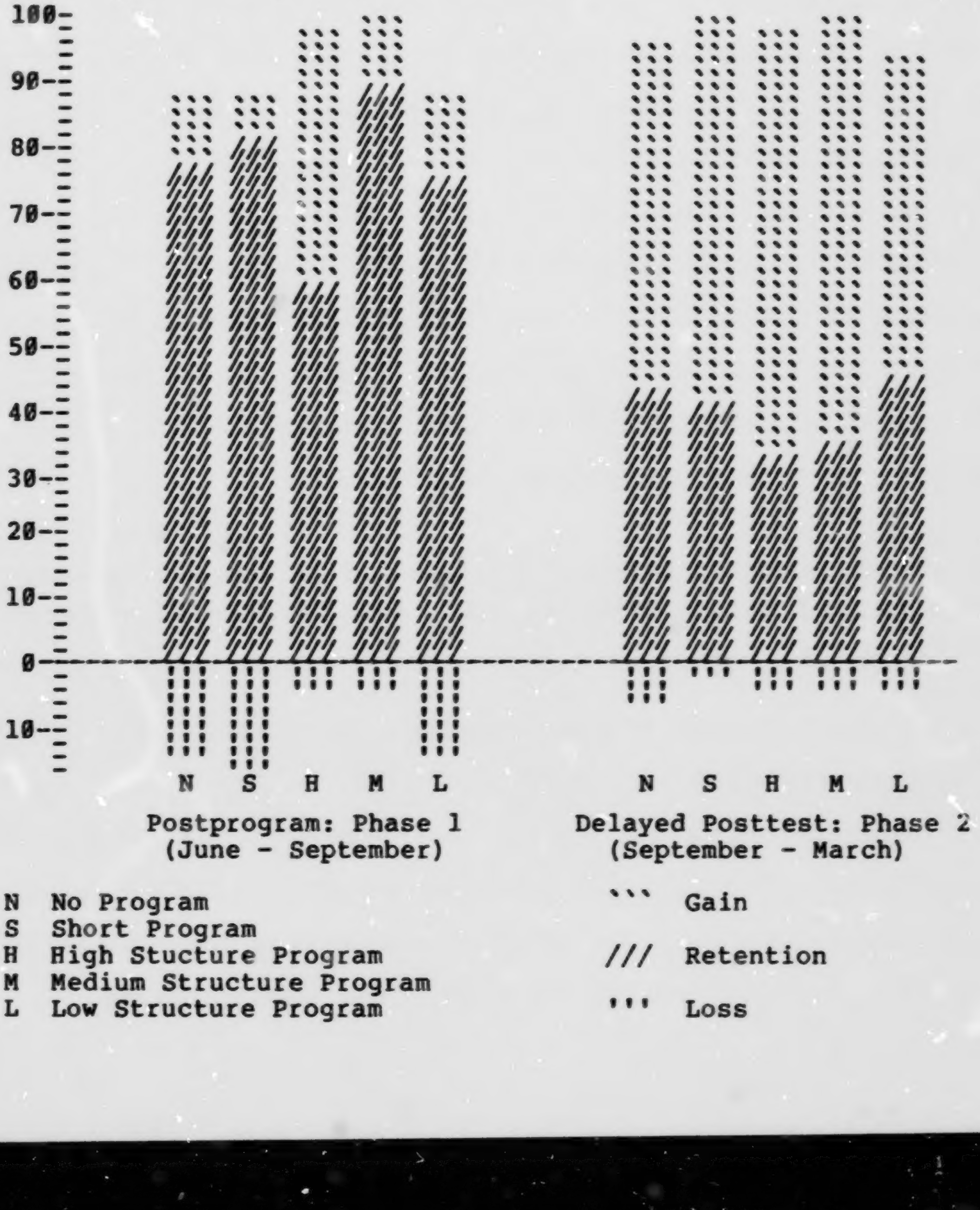
Post-summer Phase 1 analysis of data collected in September revealed that there was significantly greater gain plus retention of skills during the summer in High and Medium Structure programs than in the other groups. High Structure programs produced a significantly greater percentage of children who gained skills compared to all other programs.

The follow-up Phase 2 portion of the study showed that there were no significant differences in group changes in skills from fall to spring; the differences observed at the end of summer programs were retained midyear.

Figure 3

Overall Skill Loss, Retention and Gain

Percentages of Children



Summer Program Processes and Procedures

Data were collected on various processes and procedures employed in summer programs. General characteristics of programs were recorded. Teaching methods and interaction between children and adults were observed throughout the province by the researchers who visited 60 sites during the implementation of summer programs. Data were grouped and percentages calculated for each area under consideration according to program types. (See map on the following page).

Summer programs visited by researchers were serving about 700 handicapped individuals, of whom about one-third were severely handicapped. A similar number of non-handicapped children, mostly pre-teens, participated in these programs. About one-half of all programs during the summer of 1984 were recreational (Low Structure) in nature and about the same percentage were full day, six-week or longer programs. About three-quarters of the programs employed summer-only university students exclusively or in conjunction with more permanent staff.

Programs utilized a variety of activities to attain their objectives. Structured teaching was employed mostly by High Structure programs and learning through play by Medium and Low Structure programs. Crafts, music, art, field trips and camping were important elements of Low Structure and Short programs, as well as of Medium Structure programs.

A process-product analysis was undertaken to determine if selected summer program teaching and interaction methods were correlated with changes in post-summer inappropriate behaviors. Results of the correlation analysis indicated that there was a significant relationship between the amount of summer program time that was spent in direct instruction, as well as positive reinforcement with improvement in posttest behavior scores. The amount of summer time children spent in self-involved negative behaviors such as self-stimulation or passivity correlated positively with an increase in posttest inappropriate behavior scores.

Social Validation of Summer Programs

Social validation questionnaires were utilized to acquire information on parent and staff perceptions of program implementation. Responses of parents and staff showed that almost unanimously, they considered summer programs as very valuable for severely handicapped children. In addition, parents felt that summer programs providing relief to the family ultimately benefited the child in this way as well.

Although parents agreed to increasing emphasis on skills and behaviors, those whose children attended Low Structure programs did not want to lose the recreational aspect. Integration with non-handicapped children and the community was also viewed by questionnaire respondents as a positive factor in the lives of the handicapped and non-handicapped alike. Therefore, all programs had beneficial effects not measured directly by this study but strongly attested to by parents and staff.

Conclusions

It can be concluded from the results of this study that programs with a strong skill orientation helped severely handicapped children retain and gain skills to a significantly greater degree than did the long and short recreational programs with no skill emphasis. Skill benefits were evident immediately after summer programs and were retained over time. However, although highly structured summer programs with a strong behavior emphasis had a significantly greater immediate impact in reduction of inappropriate behaviors, this positive effect was not retained over time.

The strong endorsement of summer programs and the positive effects attested to by parents and summer school staff support the conclusion of this researcher that summer programs have greater beneficial effects for severely handicapped children than immediately appeared evident by the results of this study. Some of these benefits, such as those of integrated recreation with its consequent socialization and enjoyment were not directly measured by this study but were goals of certain summer programs, particularly those classified as Low Structure.

Recommendations

It is the recommendation of this study:

1. that summer programs for severely handicapped children be funded and continued, at least to the same degree that summer programs are made available to non-handicapped children but that the more specific needs of handicapped children be addressed;
2. that recreation in an integrated setting supplement skill and behavior goals of High Structure programs;
3. that increasing emphasis on skills and behaviors in Low Structure programs, as well as a low adult-child ratios in all programs be accomplished within the structures of present program organizations;
4. that greater integration with non-handicapped children and the community be mandated for those programs not now integrated, thus providing greater normalization of handicapped individuals, but allowing the degree and manner of implementation to differ according to local circumstances;
5. that university and high-school students continue to be employed but that increased preparation of staff, especially staff lacking in training and experience with severely handicapped children be carried out before programs begin;
6. that further studies be made to assess long-term impact of summer programs on skills and behaviors of severely handicapped children.

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INTRODUCTION

Purpose of the Study

In the spring of 1983, Alberta Education initiated a study to determine the impact of summer programming on severely handicapped children in the province. This department had become involved in the funding of summer programs. Therefore, it was felt necessary to explore further the value of summer programs and the need for continued involvement in summer program funding.

Experts and educators in the area of handicapping believe that severely handicapped children regress when there is a prolonged break in programming for them during the traditional school vacation of July and August. It is also their opinion that the greater the handicap, the greater the regression. As a result, when regular programming resumes, the time spent relearning what was lost prevents the handicapped children from acquiring new learning to the maximum of their potential. Therefore, extending the school year through summer programming for the handicapped has been advocated, in recent years, to prevent regression and to accelerate learning.

An extensive review of the available research literature by Donna Patterson (see Appendix A) revealed that some research does point to the immediate benefits of summer programs. However, there appears to be no research evidence available concerning the long-term benefits of summer programs for severely handicapped children.

Edgar, Spence and Kenowitz (1977) analyzed the results of 18 extended school year programs in the state of Washington and concluded that handicapped children do lose skills over the summer and that extended school year programs can increase children's skills. However, they maintain that the true impact of extended programs can only be measured at the end of the subsequent school year and until that is done, it cannot be ascertained whether or not these programs are truly beneficial.

Kabler, Stevens and Rinaldi (1983) refer to several studies which have reported "significant or substanial gain during summer programs for the full range of handicapping conditions and for all age ranges" (p.109). But they, too, lament the absence of research on the effects of summer programming on performance at the end of the subsequent school year. In addition, they conclude from the literature reviewed, that there is little justification for the "article of faith of special educators" as it is referred to by Larson, Goodman and Glean (1981) "that during the summer hiatus some students - and particularly the more severely handicapped - lose many of the skills they acquired during the regular school year and even worse, they take an inordinate amount of time to recover or recoup those skills when school resumes each fall" (p. 258).

In spite of the lack of direct empirical evidence to support the assumption that summer programming prevents regression or enhances learning, the U.S. courts have ruled that limiting programs for the handicapped to 180 days is in violation of Public Law 94-142. This law requires that each child receive a free appropriate public education, defined as a program of special education based on individual assessments and designed to meet each child's unique needs (Stotland and Mancuso, 1981). Court decisions were based on the evidence of expert witnesses who testified concerning the regression in severely handicapped children and the subsequent time required to recoup these losses.

In recent years, the province of Alberta has begun to provide summer programs for severely handicapped students. In April, 1982, the mandate for this programming was transferred from Alberta Social Services and Community Health to Alberta Recreation and Parks. That summer, this department sponsored 39 programs, while Alberta Education sponsored two and co-sponsored one other with Alberta Social Services and Community Health. Over 550 dependent and sensory multi-handicapped children attended programs in the summer of 1982.

The focus of summer programs under the direction of Alberta Recreation and Parks was on recreation and integration with non-handicapped children and adults. Those sponsored by Alberta Education concentrated on specific skills and behaviors based on the unique needs of each child. Hence, the emphasis of programs funded by Alberta Education was on educational, not recreational goals.

Since the goals and objectives of the two types of programs differed, it is expected that the present evaluation designed in terms of one type of program may not reflect the complementary, but different orientations of other programs. However, U.S. Court decisions and some of the research do not differentiate between and among programs in these ways. Frequently, the implicit assumption seems to be that the same objectives can be achieved by a wide variety of program types.

In the spring of 1983, Alberta Education decided that a study of as many programs as possible throughout the province was essential to address the questions being raised in the research literature regarding the necessity of summer programs for the severely handicapped. Answers are required to provide a rationale for the type and length of programming most suitable for the diverse population of multihandicapped children throughout Alberta, as well as for the type and amount of support needed for these summer programs.

The Problem

The following questions require answers in order to justify extended school programs, i.e. summer programs for the severely handicapped.

1. Do summer programs for severely handicapped children prevent regression to increased inappropriate behaviors?

2. Do summer programs for severely handicapped children produce a decrease in inappropriate behaviors?

3. Do summer programs for severely handicapped children prevent regression in essential skills attained earlier?

4. Do summer programs for severely handicapped children produce an increase in essential skills?

5. What are the characteristics of particular summer programs with respect to their goals, the types of children they serve, the staffing and activities they utilize to implement their objectives?

6. Were program objectives achieved? What were the strengths and weaknesses of programs? What difficulties were experienced?

7. What are the differences in retention of skills and appropriate behaviors between children participating in different types of summer programs?

8) Do groups of severely handicapped children who following summer programs had significantly different inappropriate behavior group means retain these differences midway during the subsequent school year?

9) Do groups of severely handicapped children who following summer programs had significantly different skill change means retain these differences midway during the subsequent school year?

The present study addressed the questions of regression and learning in a selected number of summer programs. In addition, the characteristics of programs throughout the province were observed and described.

Definition of Terms

Study Subjects

Severely handicapped children were defined as:

1. **Dependent multihandicapped** children who because of the intensity of a combination of physical, mental and/or emotional problems are unable to function without reliance on others for their basic needs.

2. **Sensory multihandicapped** children whose visual and/or hearing impairment may be accompanied by other handicapping conditions to the extent that they require specialized services usually unavailable in programs for handicapped children without visual and/or hearing

impairment or in programs designed for children with visual or hearing impairment only (Sensory Multihandicapped Program Planning Project, 1979, p.7).

Process Indicators

Summer programs were defined as extending six or more weeks with the following degrees of structure and types of emphases:

1. **High Structure,** educational (specific skills and behaviors) emphasis were programs with objectives of increased skills and decreased inappropriate behaviors according to each child's unique needs, based on individual assessments.

2. **Medium Structure** with mixed, skills and behaviors plus recreation emphases were programs having as objectives to provide summer recreation while the focus continued also on maintenance of skills and appropriate behaviors according to each child's needs;

3. **Low Structure,** recreational emphasis programs had as objectives to provide summer recreation with some attention given to pertinent skills and behaviors of handicapped children when the need arose. An enabling objective for the majority of programs of this type was

integration with non-handicapped and contact with the community. Accordingly, outcome objectives included modifying attitudes and behaviors of non-handicapped children and adults in the community.

Short Programs were defined as summer programs of two to four weeks duration and which were held at any time of the summer vacation period. Goals were similar to those of Low Structure programs, that is, to provide an integrated summer recreational program, with attention given to pertinent skills and behaviors when the need arose.

No Program was defined as child non-attendance at organized summer programs as defined in this study. However, children may have taken part in various summer activities with parents or others.

Summer program characteristics were general program descriptors including: objectives; locale, length and content; characteristics of participants; and in addition observations of activities according to settings and types, as well as methods utilized and child-staff interaction. Social validation by parents and staff perceptions were recorded during interviews or by questionnaires. These aided in describing and evaluating programs.

Outcome Indicators

Inappropriate behaviors were defined as those measured by the Inappropriate Behaviors Checklist designed for this study (see Appendix B for instruments used). This instrument facilitated recording of behaviors which tend to be characteristic of handicapped children. Such behaviors have a tendency to inhibit learning in a classroom environment and are the focus of educational efforts for these children. The following inappropriate behaviors were included in the instrument: passive, active, self abusive, personal, repetitive stereotyped, and interpersonal behavior.

Essential skills are defined as those recorded by the Teacher Interview Skills Checklist designed for this study. The checklist comprised the basic living skills which are necessary for increased independent functioning in society and are the focus of educational efforts for these children. These consisted of gross and fine motor skills; self-help skills of eating, toileting and dressing; receptive and expressive communication skills; cognitive skills; and the social skills of interpersonal interaction and classroom behavior.

Limitations and Delimitations of the Study

The dependent variables studied were delimited to specific skills and selected inappropriate behaviors, as measured by particular instruments. A limitation in this respect was the lack of a single standardized instrument to assess appropriately the skills or behaviors of this population, which exhibits a multiplicity and diversity of severe handicaps.

This study was delimited to a small sampling of each child's behavior. Time constriction in some of the schools did not permit collection of samples of all children's behavior at various times of day throughout a week.

Skill data was delimited to teachers' perceptions of skill change within the period of each phase of the study.

The study was also delimited for collection of data to programs in Alberta which enrolled sufficient numbers of children to warrant inclusion in the evaluation. It was delimited also to those individuals within each program where consent was obtained from school jurisdictions and parents for inclusion in the study.

The presence of observers in the classrooms may have produced changes in the behavior of the children and the adults working with them.

The independent variables described were the process indicators previously defined. The characteristics of the various programs were those extant at the time observations were recorded; no experimental manipulation of independent variables could be undertaken.

METHOD

Impact Study of Effect on Children

Identifying Program Groups

Since random assignment of children to various types of treatment and non-treatment groups was not possible, the study utilized a quasi-experimental control group design. Children enrolled in intact groups were selected as subjects. The groups were established by the type of program offered and could be characterized as follows:

1) **No Program** was one control group comprised of children who did not attend an organized summer program as defined in this study.

2) **Short Program**, the second control group, enrolled children for short summer programs of two to four weeks duration.

3) **High Structure** was one experimental group consisting of children attending educational, specific skill and behavior goals-oriented summer programs of six or more weeks duration.

4) **Medium Structure**, a second experimental group, was

composed of children participating in mixed educational and recreational summer programs of six or more weeks duration.

5) **Low Structure**, the third experimental group, was formed of children attending six or more weeks of recreational summer programs integrated with non-handicapped children in a community setting.

Subjects

The population of children from which selections were made for this study could be characterized as follows: severely handicapped children, two and one-half to eighteen years of age who were resident throughout the province. Excluded were totally institutionalized children, that is, those not included in school systems nor in the summer programs being studied.

The final selection of subjects was dependent on sufficient numbers in each location in the province which would permit observations comparable with those in larger centres. It would not have been feasible to spend the same span of time observing children in small and distant points in the province as was possible in the cities. Therefore, subject selection was delimited to the major centres and areas near major centres in Alberta. All available children enrolled in school program locations meeting these criteria were selected for the study.

There were 103 children in the two control groups and 98 in the various program groups making a total of 201 children. The number of students in each group included in the first phase of the study is shown in Table 1 below.

Table 1

Number of Children in Each Sample Group: Phase 1

No Program	Short Program	High Structure	Medium Structure	Low Structure	Total
58	45	22	37	39	201

In the follow-up study, undertaken midyear, the number of students in each program group was reduced due to movement out of programs studied, as well as illness or death. The numbers of children included in the delayed posttest analysis of data are shown in Table 2 below.

Table 2

Number of Children in Each Sample Group: Phase 2

No Program	Short Program	High Structure	Medium Structure	Low Structure	Total
54	44	21	32	35	186

Instruments

A review of instruments to assess skills and behaviors of severely handicapped children revealed that although many published and unpublished instruments exist, most appear to assess only one or a few areas of handicap at one time, rather than a diversity and multiplicity of handicaps. Therefore, it was found necessary to develop the instruments to assess the skills and behaviors which received attention in this study.

Instruments for use during summer observation of programs were also developed. Extensive searches for published or unpublished instruments which would adequately describe various aspects of summer programs, including interaction between adults and severely handicapped children did not reveal any one instrument which could be used directly.

Assessment of Inappropriate Behaviors

Development of Instruments. To assess behaviors, the Inappropriate Behaviors Observation Checklist was developed in several steps. The first activity was the selection and adaptation of the most appropriate items from various available instruments. Scales utilized were the AAMD Adaptive Behavior Scale for Children and Adults, the Fairview Problem Behavior Record, and A Manual for the Assessment of a "Deaf-Blind" Multiply-Handicapped Child (commonly referred to as The

Michigan Manual).

Adapted items were field tested through observation and recording of behaviors of children of all ages with a diversity and multiplicity of handicaps in one of the larger school programs for the severely handicapped. Following field observation, items were refined or eliminated entirely if they did not seem to capture adequately the behavior observed. Revised and new items were added and again field tested by the observers who were to collect study data. Following successive adaptations, the final form of the instrument, the Inappropriate Behaviors Observation Checklist, was utilized for observation in the classroom setting.

This instrument permitted recording a broad sampling of possible behaviors. It was essential to retain a large number and diverse types of items in order to depict properly the wide variety of behaviors of children with a great diversity and multiplicity of handicaps.

Definitions of Inappropriate Behaviors

The following items constituted the final form of the Inappropriate Behaviors Observation Checklist utilized in the study. Each type of behavior can be operationally defined as follows:

Passive inappropriate behaviors (PASS) were identified by observing the children in any of the following:

1. inattention to a task or command or to another person evident to the observer by the child's failure to direct attention with any part of body, face or eyes, including inattention evidenced by the child sleeping;

2. non-cooperation or non-compliance observable by child remaining passive or not following instructions;

3. fixed expression, blank stare, mouth open;

4. bizarre body positions with unusual postures whether walking, standing, sitting or lying.

Active inappropriate behaviors (ACT) were observed when the children were engaged in any of the following activities:

1. meaningless noises;
2. constant fidgeting in desk or chair;
3. moving around room with no evident purpose;
4. temper tantrums or hyperventilation.

Self-abusive behaviors (SAB) were recorded when the children performed any of the following:

1. head banging;
2. biting oneself;
3. striking or poking oneself in an abusive manner;
4. pulling own hair or ears.

Personal inappropriate behaviors (PER) were labelled as such by observing the children in any of the following activities:

1. undressing at inappropriate times;
2. mouthing objects or fingers or chewing on tongue;
3. drooling, spitting, or grinding teeth;
4. tongue thrust.

Repetitive stereotyped behaviors (REP) were recorded when children were observed in any of the following behaviors:

1. repetitive hand movements as flicking or finger postures;
2. excessive head movement in repetitive manner;
3. limbs in motion such as kicking, flailing;
4. body in motion such as rocking, twirling;
5. self-stimulation with the hand as rubbing, scratching, poking or slapping (less abusive than in self-abuse).

Interpersonal inappropriate behaviors (INT) were identified by observing the child exhibiting any of the following behaviors towards adults or other children:

1. annoying others such as pushing, teasing;
2. abusing others as hitting, kicking, throwing objects;
3. inappropriate physical contact such as hugging at inappropriate times or tactile defensiveness, i.e. not

allowing oneself to be touched at appropriate times and in appropriate ways.

Total inappropriate behaviors (TOT) combined the above subscores and provided a summary and global indicator of composite behavior.

Data collection

Study subjects were observed in the classroom setting utilizing the Inappropriate Behaviors Observation Checklist. In order to determine the most appropriate length of observation segment for the occurrence of the selected behaviors in a severely handicapped population, various time periods were field tested. Intervals of 15 seconds of observation of each child were decided upon as most suitable. Each observation period was followed by a five to ten second period for recording.

Each child was observed in 15 second segments of time on a rotating schedule so that samples of behavior could be obtained during various activities throughout the day and week. In this manner, samples obtained were truly representative of the child's behavior in general. A total of fifteen minutes of direct observation time in 15 second segments was obtained for each child.

Observation and recording of inappropriate behaviors was carried out during the months of June and September, 1983. However, collection of posttest data for High and Medium Structure programs took place towards the end of the summer programs rather than in September.

During a five-week period in February and March, 1984 data were gathered for the follow-up study in the same manner as the pretest and posttest data collection. This inappropriate behavior was recorded on the Inappropriate Behaviors Checklist.

Reliability of Inappropriate Behavior Assessment

Observers were trained by simultaneously observing the same severely handicapped individuals in a school setting with the principal researcher. Observation periods were followed by discussion of behaviors observed, as well as the understanding of the numerous items on the checklist to ensure that there would be no variation in interpretation. Discussions were followed by additional observation and discussion until all observers appeared to view and interpret behaviors in the same manner.

Pretest Phase 1 data collection: interobserver reliabilities. Measures for interobserver reliabilities were taken twice following the development of the final form of the instrument and the training of observers. One of the checks on reliability occurred just immediately before the beginning of observations. The second was two weeks after observations began when a third researcher was hired. Observers spent one day observing together with the principal investigator for each period when data for reliability measures were gathered.

Table 3 summarizes the percentage agreement between pairs of observers during the first phase of the study. The range of percentage of agreement extended from 67 percent to 100 percent. The lowest and the highest figures were recorded for behavioral areas where the occurrence of behaviors was infrequent, thus magnifying very small differences in occurrence. The median was 90 percent agreement. It was concluded that observations and recordings of the target behaviors would be conducted in a sufficiently reliable manner.

Table 3

Interobserver Percentage Agreement for Behaviors: Phase 1

Behaviors	PASS	ACT	SAB	PER	REP	INT	TOT
			First Measure				
Raters #1 & #2	98	100	100	94	92	100	98
			Second Measure				
Raters #1 & #2	92	100	100	73	87	67	88
#1 & #3	82	75	100	91	73	67	78
#2 & #3	75	75	100	72	85	100	88

Note. Where percentage agreement was low, occurence of behaviors was infrequent.

Follow-up Phase 2 data collection: interobserver reliabilities. Prior to collection of follow-up data, three days were spent training observers, two of whom had not taken part in the earlier phase of the study. For this training, videotapes of severely handicapped children were utilized. In addition, on-site observations in several programs took place to ensure that a variety of behaviors of the diverse types of severely handicapped children in the population would be accurately viewed. A fourth day was spent observing with the principal investigator for reliability measure data gathering.

Table 4 summarizes the percentage agreement between pairs of observers following the training. Percentage agreement was over 85%, except where occurrence of behaviors was infrequent. The median was 95 percent agreement.

Table 4

Interobserver Percentage Agreement for Behaviors: Phase 2

Behaviors	PASS	ACT	SAB	PER	REP	INT	TOT
Raters #1 & #2	98	90	75	93	93	100	99
#1 & #3	95	94	75	98	93	100	99
#2 & #3	94	85	100	95	100	100	100

Note. Where percentage agreement was low, occurrence of behaviors was infrequent.

Assessment of Skills

Direct assessment of children's skills was not feasible. Time constrictions prevented individual testing because of the slowness of these children to perform a task. Also their natural reticence to respond for unfamiliar persons likely would not have produced results totally representative of their true skill levels. Nor could skill level assessment be obtained through observation. During the brief observation periods, it was unlikely that many of the skills would be displayed by the children and so they could not be recorded adequately from observation data.

Therefore, it was decided that data would be gathered from the teachers who know the children well and who, in addition, are accustomed to careful observation and recording of changes as a vital element of programming for these children. Therefore, reports from teachers can be considered as of the highest quality that one could expect on children with such a severity and multiplicity of handicaps. Accordingly it was felt that this source would provide reliable information on skills of severely handicapped children.

The Teachers' Interview Skills Checklist was the instrument developed in order to obtain information on children's skills. The general areas of basic living skills which are usually the goal of school programming for severely handicapped individuals were included in this instrument. These skills are also the focus of many evaluation instruments for this population group. The aforementioned instruments were utilized as a guide in the selection of skill areas to be considered.

Provisions were made on the checklist to indicate if skill assessment was inapplicable in a particular instance. This could have been the case if that skill was not an objective of programming for that individual, whether it was beyond the child's ability or independent functioning had been achieved.

In September, 1983 teachers were interviewed or asked to indicate on this checklist whether the children had lost, retained or gained skills over the summer vacation period. This was repeated again in February and March, 1984, after the children had been back to school for six months.

Definitions of Basic Skills

1. **Gross motor** skills include basic control of head and body movements and use of the larger muscles especially the legs and arms in physical activities;

2. **Fine motor** skills include use of the finer muscles especially of the feet, hands and fingers;

3. **Eating** self-help skills;

4. **Toileting** self-help skills;

5. **Dressing** self-help skills;

6. **Receptive communication** skills, that is, the ability to comprehend communication from others, whether it is verbal or in any of the various forms of non-verbal communication;

7. **Expressive communication** skills, that is, some ability to communicate to others whether in verbal or in any of the various forms of non-verbal communication;

8. **Cognitive** skills which include aspects such as recognition of objects and their functions, memory, matching, classification, sequencing and problem solving;

9. **Social interpersonal interaction** skills, that is the ability to relate to and interact with other children, with family and with adults;

10. **Classroom behaviors** including attentiveness, cooperation, initiative, and independence.

Summer Program Characteristics and Implementation

Identifying Summer Programs

All summer programs throughout the province which included severely handicapped children from two and one-half to eighteen years of age were the population for this portion of the study.

Identification of programs operating in Alberta was through the assistance of sponsoring government departments, particularly Recreation and Parks which funded the majority of these programs. In addition, others sponsored by outside agencies were discovered through word of mouth.

All summer programs were categorized for purposes of further description by their length (Short versus the others), and their primary goals of integrated recreation (Low Structure) or educational skill and behavior change (High Structure) or a combination of these two (Medium Structure), regardless of the degree of combination.

Instruments

Standard methods were necessary to record observation data to be gathered on summer programs to ensure uniformity among three observers. Instruments to accomplish this were developed and prepared especially for this study.

A search of the literature to locate suitable observation instruments revealed the Abt Associates Assessment of Selected Resources for Severely Handicapped Children and Youth (1976) which was a study of selected programs throughout the entire U.S. However, these were not summer, but rather regular year, and often, residential programs for handicapped, including those who were severely handicapped. Nevertheless, the Abt study as well as Klaber's 1969 study of institutions were a useful aid in developing instruments and procedures for recording information on summer programs.

Description of Summer Programs

This portion of the study took the form of descriptions of the variety of summer programs for severely handicapped children throughout the entire province of Alberta. Visitation to programs, as well as observation and recording of characteristics and processes and procedures took place during the months of July and August, 1983.

Development of instruments. Items from the Abt Associates study concerning characteristics of programs and observation of client-adult interaction were selected and adapted to be more suitable for a study of summer programs.

Interaction observation items were field tested in a school program which was being operated in the same setting and in a manner somewhat similar to the subsequent summer program. This was done to ascertain if item content and format and observation timing suggestions were suitable. Further revision was followed by additional field testing until these elements apppeared to be suitable.

The final form of the instrument utilized for observation of summer programs consisted of a program description interview checklist and an interaction observation schedule.

The Program Description Interview Checklist consisted of the following descriptors:

1. program orientation objectives and goals;
2. program content and length;
3. facility location, adequacy and appropriateness;
4. availability and adequacy of materials;
5. staffing, including volunteer and parent participants;
6. severely handicapped participants by numbers, age, sex, degree of handicap and living accomodation;
7. degree of integration by activities and numbers of non-handicapped summer program participants;

The Interaction Observation Schedule included items to record child and adult interaction level. In addition, activities were designated according to setting and type, as well as methods of instruction being used when observations took place. Items for these instruments were adapted from the studies by Abt Associates (1976) and by Repp, Barton, and Brulle (1981).

Children's interaction levels and types were observed for any of the following:

1. **positive inner-directed activities**, which were defined as actions in which the child was involved in some form of appropriate self-involved behaviors such as eating, toileting or dressing;
2. **negative inner-directed activities**, consisting of self-stimulatory actions, sleeping, remaining inactive or in any of the other self-involved inappropriate behaviors described earlier;
3. **positive outer-directed responses** to objects or activities or to people, including responses to direct instruction;
4. **negative outer-directed responses** to objects or activities or to people such as destruction, aggressiveness, rejection, resistance and withdrawal;
5. **independent initiation or continuation of activities** alone or in groups.

Staff interaction types and levels were categorized as follows:

1. **setting-oriented activities** consisting of basic care of the children or communication with other adults, as well as preparation of materials, reports or food;

2. outer-directed general activities consisting of direct work with the children in tasks such as supervision, organization, play, conversation, listening or responding, but not including formal teaching;

3. outer-directed formal instruction;

4. positive and negative reinforcement.

Staff outer-directed activities were further categorized by methods used and consisted of the following:

1. verbal or nonverbal communication without physical assistance given;

2. verbal or non-verbal communication with accompanying physical assistance;

3. physical assistance or manipulation without preceding or accompanying verbal or nonverbal communication.

Data collection of salient features of summer programs was accomplished through interviews and observations.

During the months of July and August, summer programs throughout the province were visited by at least one of the researchers. Observers spent one hour or more in each program interviewing and observing. The two-fold purpose of these visits was to obtain information from program directors and/or staff regarding various characteristics and aspects of programs, as well as to observe directly how programs were implemented. It is assumed that the aggregation of this information provided an accurate representation of particular types of programs across the province.

Observers collected descriptive information on programs by interviewing one individual responsible for the program in each centre and recording responses on the interview checklist developed for that purpose. Discussion was not limited to program directors but involved staff as well, depending on local circumstances.

Staff-child interaction data was collected by observation during activities and and recording of interactions on the observation schedule prepared for this purpose. Observations took place on a rotating schedule between severely handicapped children and adults in 5-second intervals. Observers decided on a sequence which would facilitate individual observations, depending on the structure of activities being observed. Then, for example, designated child #1 was observed for five seconds, followed by a brief recording period; then staff #1 was observed for five seconds, followed by recording of observations; then, child #2 and staff #2 were observed, consecutively and recordings made; other individuals present were then observed in a similar sequence. Observers then moved to other activity locations in the same program to continue observations. If few staff and few severely handicapped participants were present, the observations were repeated on the same individuals. However, no record of individuals was retained other than their staff or child status.

In all, 360 observations, each of five seconds duration, were gathered in the programs where a large number of staff and of severely handicapped children made this feasible. However, in rural areas, especially where there were small numbers of severely handicapped children, observations were cut to one-half of that number. It was decided that the shorter total time of observation would give as representative a sample of activities and interactions in small programs as the longer observation time would in the larger programs. Therefore, a total of 30 minutes of direct observation time for quantitative recording took place in the larger, and 15 minutes in the smaller, programs.

In addition, observers were directed to record any pertinent qualitative judgments at the end of each observation period in one setting or after a particular activity which would clarify or add information to the quantitative data.

Observers were not limited in the amount of additional time they wished to spend observing or talking with personnel in the programs.

Reliability of data collected. All observers were involved in the pilot testing of the observation schedule and subsequent discussion and refinement of items and time intervals. Therefore, observers were fully aware of the meaning of items and the type of behavior which was to be recorded. No reliability data on observations was computed.

Data gathered through observation was a small segment of total program time at each location.

Data on characteristics was obtained from one individual who was responsible for the program. At times this was the recreational director of the city or town; at other times it was an individual from the recreation office who was responsible for summer programming; and in other situations the person interviewed was directly responsible for day-to-day implementation of the program or was one of the principal staff members. Therefore, some lack of accuracy in details of information received and recorded may have been present.

However, the accumulated information for programs across the province is assumed to be an accurate representation of general overall program implementation.

Social Validation of Summer Programs

A second aspect of the study of summer programs was to permit those directly involved with programs to express their perceptions of the need for and the success of implementation of summer programs for severely handicapped children. This was accomplished through questionnaires which were distributed to summer program staff and parents.

Development of questionnaires relied to a great extent on one developed and utilized following a summer program for severely handicapped by the Edmonton C.A.P.E. directors in

1982. Items from this instrument were adapted and new items added to suit the needs of a large number and great diversity of programs throughout the province. Because of this variety of programming types, it was necessary to retain a broad spectrum of questions. The result was inclusion of items that were applicable to one type of program or another but not to each and every program.

Construction of questionnaires in a parallel fashion for parents and staff was designed to facilitate comparisons between the two groups. A few items were not directly comparable.

Questionnaires were to be answered anonymously but respondents were asked to indicate their role in relation to the children and the location of the program involved. Respondents were given the opportunity to reply to 17 items on a 5-point scale from strongly disagree to strongly agree. Three open-ended statements provided opportunity for additional explanations or comments about programs and their implementation.

Designation of Program Aspects. Parent and staff opinions were sought by specific questionnaire items on the following program areas:

1) need for summer programs in staff item #'s 1, 13, 14 and parent item #6;
2) program goals and objectives in #11 and #12;

3) program planning in #5;

4) program implementation in #'s 7, 8, 17.

5) impact on severely handicapped children in staff item #'s 2, 3, 9, 10 and parent item #4;

6) parent involvement in programs by staff item #4;

7) staff competence in #'s 15 and 16;

8) staff satisfaction in staff item #6.

Data collection. Questionnaires were distributed to program directors, coordinators or staff by researchers visiting programs. They were asked to distribute them to the rest of the staff and to send parent questionnaires home with the severely handicapped children attending programs. In addition, it was suggested that questionnaires be given to parents whose severely handicapped children were not attending programs, when possible.

Staff were encouraged to respond even if they or the children with whom they worked were only indirectly involved with severely handicapped children in the summer programs. Group home/institutional staff were also encouraged to respond for parents when the latter were unavailable. The residential staff were often the only adults working with the child in after-program hours.

Program directors/coordinators were asked to collect questionnaires and mail them to the research director in the envelopes provided. Envelopes were supplied to parents so that, if they wished, they could mail their responses directly.

Reliability of data collected. Questionnaires were given to staff to be distributed to parents of severely handicapped children. The questionnaires did not specify the degree of handicap in order not to offend parents who, at times, are sensitive to having their children designated as severely handicapped. Because it is not always easy to differentiate clearly between the degrees of handicap in children, summer staff may have sent questionnaires home with children who were not severely handicapped. Therefore, responses to parent questionnaires may have come from parents whose children were not severely, but rather moderately or mildly handicapped.

Summer staff were encouraged to respond to questionnaires even if their involvement with the severely handicapped children was indirect, as for example, through the normal children with whom they worked. Therefore, there was no definite indication as to the degree of involvement with programming for severely handicapped children by staff who responded to the questionnaires.

However, the majority of children, and therefore, the majority of parent responses, came from programs which enrolled severely handicapped children exclusively. Therefore, it is assumed that most responses are from parents and staff who were involved with this type of child, directly or indirectly.

Procedure

This study of summer programs for severely handicapped was approved, designed and carried out in two stages. The timeline on the following page depicts the sequence of activities carried out.

Phase 1, the first portion, conducted in 1983, consisted of:

1. identification of study subjects and design of study;
2. preparation of materials;
3. training of research observers and establishment of interobserver reliabilities;
4. collection of baseline (pretest or preprogram) data on all possible study subjects;
5. visitation of, and gathering information on, summer programs throughout the province;
6. collection of posttest (postprogram) data following summer programs;
7. analysis of data and preparation of reports.

Phase 2 follow-up portion of the study, conducted at midpoint during the subsequent school year, consisted of:

1. government approval of a follow-up study;
2. training of observers and establishment of interobserver reliabilities;
3. collection of delayed posttest data on all available study subjects;
4. analysis of data and preparation of reports.

Preparatory Phase

During the spring of 1983, a review of the literature on summer programs for severely handicapped was conducted. A study of summer programs for severely handicapped in Alberta was approved and contracted in April.

Identifying subjects. Information regarding projected program locations for the summer of 1983 was obtained from Alberta Education and Alberta Recreation and Parks at the end of April. Telephone contacts were made with local organizations responsible for summer program planning throughout the province to inform them of the study and to obtain pertinent information. In addition, some contacts were made in person. Information obtained from these sources served as a basis for selecting locations enrolling sufficient numbers of children to warrant visits twice for collection of data on children as well as once in the summer to view programs. Several of the locations chosen initially were omitted in the final selection because of distance and small numbers of severely handicapped children.

It was necessary to collect preprogram data on children before school terminated in June. Therefore, letters (see Appendix C for correspondence) were mailed to school jurisdictions requesting access to their schools for observation and assessment of severely handicapped students.

Letters were also sent to parents through the schools requesting permission to allow their severely handicapped children to participate in the study. These were accompanied with provision for returning a signed statement. Only those children with school jurisdiction and parental permission were subjects for the study.

Preparation of materials. In early May, a review of research literature revealed no single instrument suitable for assessment of impact of summer programs on severely handicapped children. Neither was any one instrument found which would have been appropriate for observation and description of summer programs in Alberta. Therefore, all the instruments used in the study were prepared by the principal researcher through adaptation of materials in areas pertinent to both major sections of this study. All instruments were field tested in one of the larger school programs enrolling severely handicapped children of all ages and all types of handicaps. Following field testing, further revisions were made and field tested again until satisfactory instruments resulted.

Personnel. Two research assistants (one from Calgary for the southern areas and a second from Edmonton for the northern areas) were hired in May for observation of children in the schools. They participated in the field testing of instruments and in subsequent revisions. This allowed them to become familar with behaviors to be observed and use of the instruments, thus facilitating training. Observer reliability data was collected at the end of May.

Because of unexpected delays in gaining access to the schools and children, a very limited time remained to collect data before school closure in June. As a result, it was necessary to hire a third researcher in mid-June. At that time, researchers were again brought together for training. This was followed by a second reliability check.

Collection of Baseline Data

Because it was not possible at this stage to know which children would be in summer programs and which would not, it was necessary to collect baseline data on all children to whom access was available. Therefore, observers spent the entire month of June collecting data on skills and behaviors of all available children. Data were collected on a rotating schedule so that each child would be observed in a variety of activities at different times of day throughout the week in order to get a representative sample of behavior.

Collection of Summer Program Data

Observation of activities took place in July and August during visits to most of the summer programs throughout the province. Other pertinent information was obtained through interviews and casual conversation.

Parent and staff perceptions of various aspects of programs in the form of questionnaires were collected during follow-up visits of programs. In rural areas where a second visit could not always take place and personal collection of questionnaires not always possible, staff were asked to mail these in the self-addressed envelope provided for this purpose. As parents were provided with envelopes also, they were able to exercise the option of mailing their responses directly, if they so chose. All questionnaires not personally collected were received by mail in August and September.

Collection of Postprogram Data

Postprogram observations of behaviors were gathered towards the end of summer programs in August for those that were somewhat structured, thus making this type of data collection possible. This was the case for High and Medium Structure programs. However, because collection of behavioral data would have been difficult to do during recreational activities, postprogram inappropriate behavior observations were carried out only when children from Low Structure, Short and No program groups returned to school in September.

Behaviors recorded immediately following summer programs in mid-August may have differed somewhat from those recorded in September. Nevertheless, it was decided that this was the only feasible manner for the research assistants to have sufficient time to gather postprogram data. Collection of data was completed by the end of September.

Collection of Delayed Posttest Data

In mid-February, 1984, two new observers were hired and were trained along with one who had observed in the earlier phase of the study. Following this training, data gathering on skills and inappropriate behaviors took place in the same manner as had been done for earlier data collection. This was completed the third week of March.

Statistical Procedures

Impact Study of Effect of Summer Programs on Children

Immediate impact on inappropriate behaviors. Two types of analyses were undertaken to ascertain immediate effects of summer experiences between and among groups on inappropriate behaviors.

1. A two-way analysis of covariance was utilized for comparisons of adjusted post-program levels (posttest scores). Scores were adjusted to control for initial differences among groups on entry to the summer program. With the pretest scores

on the same instrument as covariate and age and treatment as independent variables, this analysis was performed on each subtest as well as on the total behaviors of the Inappropriate Behaviors Observation Checklist. Tukey's multiple comparison test was then utilized for pairwise comparisons of groups (see Ferguson, 1976, p. 299).

2. Empirically derived expectations (predictions) were established for each child on each behavior. This was accomplished by generating regression equations with the baseline behavior levels used as predictors and the posttest (post program) level as criterion. The proportions (%) of pupils who met, succeeded or failed to reach this expectation was then computed and significance of differences between groups tested using chi square analysis.

Immediate impact on skills. To discover the impact of summer programming on severely handicapped children's skills, chi square analysis was used to test significance of differences among and between groups in skill loss, retention and gain over the summer period. This analysis was performed for each skill area and for all skills combined. In addition, a visual comparison was made between groups on proportions (percentages) of children who regressed, retained or gained in skill performance for each skill and for all skills combined during this same period.

Delayed impact on inappropriate behaviors. To assess the delayed effects of summer programming on inappropriate behaviors, a two-way analysis of variance with one repeated measure factor was utilized for comparisons of delayed postprogram levels (midyear posttest scores) with pretest and posttest levels. This analysis was calculated for each subtest as well as for the total behaviors of the Inappropriate Behaviors Observation Checklist. Pairwise comparisons of the interaction effects were then calculated using Scheffe's multiple comparison test (see Glass and Stanley, 1970, p. 388-393; Ferguson, 1976, p. 295-297).

Delayed impact on skills. To ascertain the delayed effects of summer programming on skills of severely handicapped children, significance of differences between groups in frequency of loss, retention and gain during the first half of the school year was tested with chi square. This analysis was performed for each skill and for all skills combined. In addition, a visual comparison was made between groups on percentages of children who lost, retained or gained for each skill area and for all skills combined during this same period of time.

Program Implementation Processes and Procedures

All summer programs throughout the province were analyzed and categorized to fit program types previously designated in this study and on which data on children were gathered. These consisted of High, Medium and Low Structure programs, as well as Short programs and No programs, where this last category was applicable. All descriptive data, including observations, were then grouped according to the information provided and by type of program. Percentages were calculated for each area under consideration and for each program type.

Social validation questionnaire items (parent and staff perceptions) were categorized according to the information elicited. Percentages for each group of respondents in each program type were calculated.

Process-Product Analysis

Finally, a process-product analysis was undertaken to determine if selected program interaction emphases (staff's and children's activities) were correlated with changes in children's postprogram inappropriate behaviors. The Pearson product-moment correlation coefficient was utilized for this purpose.

RESULTS OF THE STUDY

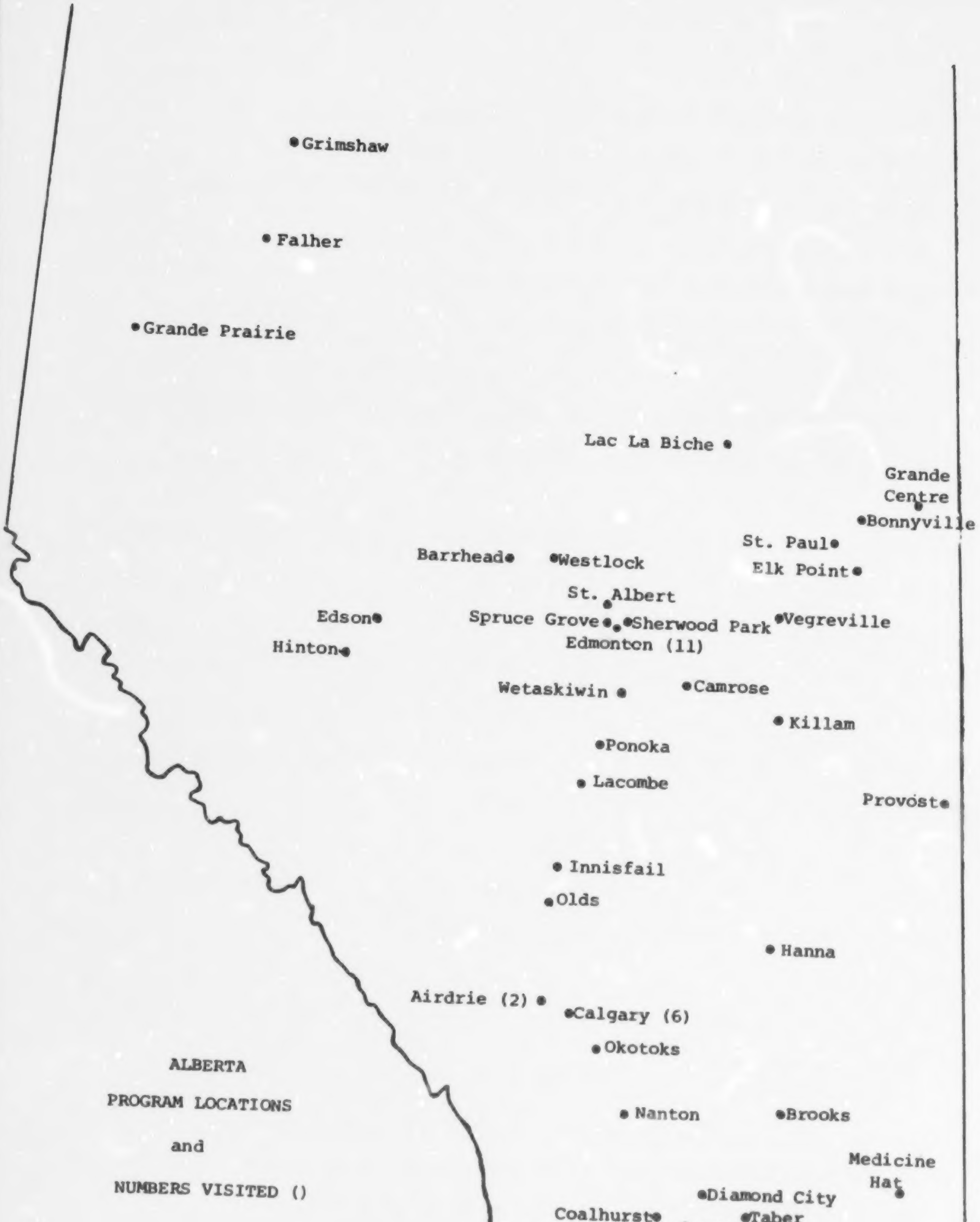
Summer Programs: Characteristics and Implementation

The purpose of this portion of the study was to describe the variety of summer programs for severely handicapped school-age children throughout the entire province. In order to carry out this portion of the study, researchers conducted on-site visits, interviewing directors and/or coordinators of programs and observing, recording and analyzing activities in programs.

During the course of the summer, 60 programs operated by 48 local groups were visited for a total time of more than 100 hours. A minumum of one to two hours was allotted for each program location, with actual length of visits determined by local circumstances. The map on the next page indicates locations of programs visited and numbers of centres at each.

To facilitate observations and descriptions, an interview form and an interaction observation schedule were developed and utilized. Besides the collection of quantitative information, qualitative observations were also recorded. In recreation programs in rural areas and where there were few severely handicapped children, qualitative recording was generally more feasible. At times, this was the only type of recording of observations which was possible.

Complete inmformation was not obtained for all



ALBERTA

PROGRAM LOCATIONS

and

NUMBERS VISITED ()

Grimshaw
Falher
Grande Prairie
Lac La Biche
Grande Centre
Bonnyville
St. Paul
Elk Point
Barrhead
Westlock
St. Albert
Edson
Spruce Grove
Sherwood Park
Vegreville
Edmonton (11)
Hinton
Wetaskiwin
Camrose
Killam
Ponoka
Lacombe
Provost
Innisfail
Olds
Hanna
Airdrie (2)
Calgary (6)
Okotoks
Nanton
Brooks
Medicine Hat
Diamond City
Coalhurst
Taber
Coaldale
Blairmore
Lethbridge (4)

programs visited. In two programs, directors were not available at the time of visits and all summer program participants were away at recreational activities in another town. In seven other programs, no observation of activities took place because the severely handicapped children did not take part in the entire program and were not present that day or because there were no severely handicapped in those particular programs. In addition, a few programs were missed entirely because they were unknown to the researchers.

Program sponsorship in all but eight of the 60 programs visited was by Alberta Recreation and Parks. Two programs were funded by Alberta Education and these two, as well as one other, were extensions of school-year programs. Three were basically residential programs and two were pre-school programs. One program was sponsored by a local association for the handicapped. Most programs received additional assistance from their local authorities, who are encouraged to participate and assist in program implementation by the Recreation and Parks Department.

Instruments developed for this portion of the study were the following:

1. Program Description Interview Checklist for directors or coordinators regarding various characteristics of their programs;

2. Interaction Observation Schedule for recording of child and adult interactions, as well as type and setting of activities observed;

3. Parent and Staff Questionnaires (social validation) for obtaining perceptions of the need for summer programs for the severely handicapped and the success of implementation of programs from consumers of the service.

Goals and Obectives

The majority of summer programs for the severely handicapped in the province were sponsored by Alberta Recreation and Parks. Two processes were mandated by this department for the programs: recreational activities and integration with non-handicapped children and the community. In its 1983 Guidelines for programs, this department stated that programs funded by them are to "be based on the principles of recreation and play" and these were to be given "priority". Programs were to provide "some opportunity for either physical and/or social interaction" with non-handicapped children. In addition, activities were to be "appropriate to the ages and interests of the participants and should allow the opportunity for participation based on ability" (p.15). Program organizers were, therefore, to provide for the development of the child according to age and ability, within an integrated recreational setting in a normal environment. Recreation and Parks' program focus appeared, thus, to emphasize and explicate processes rather than outcomes.

Summer programs for the severely handicapped sponsored by Alberta Education, however, tended to be goal, rather than process, oriented. These programs focused heavily on individual skill development and behavior management according to the needs of each child, based on individual assessment. Recreational activities and integrated settings received relatively little emphasis.

Both educational and recreational programs sought the good of the severely handicapped child. One attempted to promote change in the individual, but the Recreation and Parks programs included intentions to change society. One approach attempted to widen the child's horizons by providing the possibility of as many experiences as are available to the normal child. The Alberta Education programs focused on skill development and attempted to produce an individual more independent and more socially acceptable. But having gained the skills, the individual must have a larger social context than immediate family and helpers. Therefore, educational and recreational programs are complementary and both are needed by the handicapped and the non-handicapped child and by society.

Program implementation was partly determined by local needs and circumstances. Therefore, not all programs were purely educational or purely recreational. They ranged from those claiming to be three-quarters educational emphasis to those with three-quarters recreational emphasis. These have been considered Medium Structure with mixed educational and recreational emphasis, regardless of the degree of each element.

Data gathering was carried out during on-site visits on 48 Recreation and Parks programs, on two funded by Alberta Education and one another jointly funded by the two departments. In addition, two programs, not funded by either of these departments were included in data collection.

Priority objectives were sought through the Program Description Interview of program directors. Table 5 summarizes the information on the numbers and percentages of programs according to their broad orientation either towards education (basic skill and behavioral goals) or recreation. All mixed programs are combined under the mixed category.

More than one-half of all programs deemed their goals to be basically recreational in nature. Two had educational objectives as their primary focus, that is, their goal was the development of basic skills in the child. In the programs that were reported by directors as being both educational and recreational, there were varying degrees of mixture. Of the 21 mixed programs, 12 focused primarily on recreational goals, with about 25% educational goals; two programs had education as their primary goal with about 25% recreational emphasis; seven programs had about one-half educational and one-half recreational emphasis.

Table 5

Program Goals and Objectives

Program Types	N	Percent
High Structure (Educational)	2	4
Medium Structure (Mixed)	21	39
Low Structure (Recreational)	30	57

Normalization and integration of the handicapped have been recent goals in society. One of the mandates for many of the summer programs is integration with non-handicapped children. Therefore, information was obtained in this area. Table 6 summarizes the information on the numbers and percentages of programs by their degree of integration with non-handicapped children.

About one-half of all programs were completely integrated, that is, severely handicapped children participated, according to their ability, in all or most program activities with normal peers. Children in two programs were not integrated at all. In nearly one-half of all programs, integration consisted of outings and field trips into the community and in six programs, sharing of a few activities with non-handicapped children. Therefore, severely handicapped children in about one-half of all programs were not truly integrated with their peers.

Table 6

Integration with Non-Handicapped by Programs

Type of Integration	N	Percent
Most or all activities	26	49
Field trips and camping	25	47
No integration	2	4

Salient Features of Programs

Duration of programs varied greatly throughout the province. About two-thirds of the programs were six weeks or longer. Some programs were organized in short sessions. In some of these children were allowed to participate in more than one session while in others, they were not. Table 7 depicts the numbers and percentages of programs according to these categories.

Table 7

Duration of Programs

Length of Programs	N	Percent
6 weeks or longer, full days	25	47
6 weeks or longer, half days or partial week	9	17
4 weeks in length	3	6
3-week long sessions	12	22
2-week long sessions	3	6
1-hour sessions	1	2

Location of summer programs, according to Alberta Recreation and Parks Guidelines, should be, if possible, "in community-based recreation facilities" (p.15). This designation includes community schools. Table 8 gives the numbers and percentages of programs by their location.

Most (90%) of the programs throughout the province were based in recreation centres or schools and their adjacent playgrounds. The remainder of the programs were home or group home based. Ten of the school-based programs were in facilities for the handicapped where at least some of the children spent the school year. All but one of the programs reported adequate (based on space) and appropriate (judged by needs of handicapped attending, such as wheelchair access) facilities. Four programs indicated that difficulty was experienced in obtaining sufficient materials for implementation of programs.

Table 8

Location of Program Facility

Location	N	Percent
Recreation complexes	25	47
Handicapped school facilities	10	19
Other schools	10	19
Homes or group homes	5	9
Other	3	6

Staffing patterns for summer programs was ascertained by interviews with program directors. Information on programs with various staffing patterns is summarized in Table 9. In more than one-half of the summer programs staff consisted of summer-only employees, that is, university and high school students. Of the remaining number of programs which were staffed by working adults, 9 were staffed almost entirely by those who had worked with most of the same children during the school year. Over 80% of the staff were female. About 60 volunteers, often parents, offered their assistance in the various programs. Some 20 programs reported parent visits. In general, the staffing pattern for severely handicapped was a ratio of one adult to two children. However, in some instances, one adult worked exclusively with one child.

Table 9

Staffing Patterns

Program Staff	Number of Programs	Percent
Full-time working adults	14	26
Summer-employed students	34	64
Mixed: adults and students	5	10
School-year staff	9	17

Note. Columns total more than 100% because the last category includes members of other categories.

Program participants consisted of about 700 handicapped individuals, including severely, mildly and moderately handicapped. There were about the same number of non-handicapped children, mostly pre-teens. Table 10 displays the percentages of children attending programs throughout the province according to sex and type of functioning.

Since not all programs were integrated, many programs had small numbers of handicapped with large numbers of non-handicapped children. This was the case for most rural area programs. Therefore, a small number of programs had large numbers of severely handicapped children and no non-handicapped children.

About three-quarters of the handicapped children in the programs viewed were severely handicapped. A slightly higher proportion of handicapped children were male than female, while the opposite was the case for non-handicapped summer program participants.

Table 10

Program Participants: Percentages of Children

Participant Type	Male	Female
Severely handicapped	19	14
Other handicapped	9	7
Non-handicapped	22	29

Living accomodation of severely handicapped children was another area of interest. Table 11 indicates the numbers and percentages of children who came from various types of living situations. Over one-half of the severely handicapped children lived in their own or foster homes. Excluded from the population for this study were totally institutionalized children, that is, those who did not participate in school programs nor in summer programs being studied.

Table 11

Living Accommodation for Severely Handicapped Children

Type of Living Accommodation	N	Percent
Own/foster home	262	56
Group home	78	17
Institution	125	27

Description of Program Activities

Information was sought on the planning and implementation of summer programs. Those involved in program organization and/or implementation were interviewed. In addition, researchers visited programs and observed activities in progress. Table 12 indicates in percentages the sites of observed activities classified by program type.

Table 12

Settings of Observed Activities: Percentage of Total Time

Types of Settings	High Structure	Medium Structure	Low Structure	Short Program
	Program Types			
Classroom	100	45	20	0
Recreation hall	0	14	19	68
Outdoors and pool	0	33	61	26
Basic care area	0	8	0	6

Intended program content percentages were obtained through interviews of program directors and coordinators. These were combined by program types and are displayed in Table 13.

This information was available on 44 programs throughout the province. Omitted in this count are four group home programs which were occupied chiefly in providing basic care. Other programs are not included, either because severely handicapped children failed to attend or circumstances prevented collection of the data. Short programs include one program which considered itself more educational than recreational.

Programs differed in the amount of time assigned to various activities. Three-quarters of the time was designated as teaching time (both structured and through play) by the High Structure programs. However, this dropped to less than one-half in Medium Structure programs, to one-third in Low Structure and one-fifth in the Short programs. Creative arts and outdoor activities (field trips, camping, swimming) were not a part of High Structure programs, while they constituted nearly one-third of the time in Medium Structure, and about one-half of the time in Low Structure and Short programs.

Basic care of the children (feeding, dressing, toileting) as well as therapy was expected to consume from one-quarter to nearly one-sixth of the time in all but the Low Structure programs. This indicates the level of handicap of the children attending programs. Within the Low Structure categorization, many rural area programs were included. Fewer of the most severely handicapped children participated in rural programs compared to the larger centres. Hence much less time was needed for basic care of the children.

Observed activity types were recorded utilizing the Interaction Observation Schedule. Observational data was summarized by program type and is included in Table 13. Most of the time that High Structure programs were being observed, structured teaching was taking place. Almost one-quarter of the time observed in Medium Structure programs was spent in basic care activities and one-third in play activities. Low Structure programs spent over one-half of the observation time involved in play activities, while in Short programs nearly half of the time observed was spent in crafts.

Program implementation. Were programs implemented as intended? To answer this question information based on observations by the researchers was compared with the descriptions provided by program personnel. Table 13 enables a comparison of categorized activities according to intended percentages of time allotment and percentages of time observed for the various types of program groups.

Observation data appeared to be generally congruent with the intended program content as outlined by directors and coordinators of programs. Observations of summer programs also verified the general thrust of the programs, whether educational, recreational or mixed. For example, High Structure programs assigned 75% of their time to learning through structured teaching and play, while they were engaged in this activity during 89% of the total time they were observed by researchers. In Medium Structure programs, 44% of the total time was allotted by programs for these activities and they took place during 46% of the time researchers observed these programs. In Low Structure and Short programs the time designated for these activities was 32% and 20% respectively; however, 52% and 34% respectively, of the time researchers observed programs, staff and children were involved in these activities. This discrepancy for recreational programs was due to time constrictions for observers which made it difficult to observe children in activities such as field trips and camping, important aspects of recreational programs.

Table 13

Intended and Observed Program Content: Percentage of Time

Activity Types	High Structure N=2	Medium Structure N=17	Low Structure N=18	Short Program N=7
Structured teaching				
Intended	70	12	0	12
Observed	89	13	14	10
Learning through play				
Intended	5	32	32	8
Observed	0	33	52	34
Unstructured play				
Intended	0	11	8	4
Observed	9	15	11	6
Crafts, music, art				
Intended	0	18	32	26
Observed	0	15	16	41
Basic care or therapy				
Intended	25	14	7	20
Observed	2	24	6	9
Field trips, camping				
Intended	0	13	21	30
Observed	0	0	0	0

Descriptions of Observed Interactions

Child and adult interaction type and level were determined through observation and recording on the Interaction Observation Schedule. Data in this section depicts activities which took place during program visits by researchers.

Children's interactions were observed for any of the following taking place:

1. positive and negative inner-directed activities,that is, actions in which the child was involved basically with self, such as self-care, self-stimulation, sleeping, remaining in bizarre postures or with fixed expressions;

2. positive and negative responses to direct instruction or to others in any activities;

3. independent initiation or continuing of activities alone or in groups.

Table 14 depicts the interactions of children attending summer programs by program type according to the designated categories. In High, Medium and Low Structure programs, a very similar pattern of child interactions emerged. In all three of them, about one-third of the observed interactions were directed toward self, while in the Short programs nearly one-half were. Negative activities, whether inner or outer directed were twice as frequent in the Short programs than they were in any of the other types of programs. However, independence in activities was evidenced a slightly higher percentage of time in the Short than in the other programs.

Table 14

Child Interaction Type and Level: Percentage of Time

	Program Types			
Types of Activity	High Structure	Medium Structure	Low Structure	Short Program
Inner directed:				
Positive	9	10	12	1
Negative	22	19	21	42
Outer directed:				
Positive responses	44	41	44	17
Negative responses	1	5	2	8
Independent initiation	24	25	21	32

Staff interactions were categorized as follows:

1. setting-oriented activities consisting of basic care of the children, communicating with other adults, preparation of materials, reports or food;
2. outer-directed general activities consisting of working directly with the children in tasks such as supervision, organization, play, conversing, listening, responding, but not including formal teaching;
3. outer-directed formal instructional tasks;
4. outer-directed positive and negative reinforcement.

Programs can be differentiated by the time staff spent in various types of interaction activities. Table 15 displays observational information regarding staff interactions by program types and according to the categories designated. High Structure programs staff spent three-quarters of the time they were being observed in direct instructional interaction along with positive reinforcement. Staff in the other three program types spent only about one-third of their time in these and about one-half in general outer-directed activities (involvement with the children in other than direct instruction and positive reinforcement). Setting-oriented activities took about one-fifth of the time in all programs, while negative reinforcement was almost nil.

Table 15

Staff Interaction Type and Level: Percentage of Time

	Program Type			
Type of Activity	High Structure	Medium Structure	Low Structure	Short Program
Setting oriented:				
Preparation tasks	10	12	10	8
Basic care	1	9	4	6
Outer directed:				
General activities	12	43	58	47
Direct instruction	45	24	23	37
Reinforcement:				
Positive	31	12	5	2
Negative	1	0	0	0

Staff outer-directed interactions were further categorized by the methods utilized. These consisted of the following:

1. verbal or nonverbal communication without physical assistance;

2. verbal or non-verbal communication with physical assistance;

3. physical assistance or manipulation without verbal or nonverbal communication.

Table 16 displays the percentages of time that staff utilized various methods when interacting with children. In all programs staff provided a minimum of manipulation or physical assistance while communicating with the children in a verbal or nonverbal manner. However, verbal or nonverbal communication with no physical assistance was the method utilized in almost one-half of the outer-directed interactions observed in the High Structure programs and slightly under one-half in the Short programs. In the Medium Structure programs, this was the case about three-quarters of the time, while in the Low Structure programs, it was somewhat under the proportion of Medium Structure programs. Therefore, verbal or nonverbal communication, without any physical assistance was the method most frequently employed.

Table 16

Staff Interaction Methods: Percentage of Time

Methods Employed	Program Type			
	High Structure	Medium Structure	Low Structure	Short Program
Verbal or nonverbal:				
no physical assist	50	70	67	43
with physical assist	47	24	32	46
Physical assist only (no verbal/nonverbal)	3	6	1	11

Social Validation of Summer Programs

In order to allow those directly involved with programs to express their perceptions of various aspects of program implementation, questionnaires were devised and distributed to summer program staff and through them to parents. These were to be answered anonymously. Staff were encouraged to respond even if they or the children with whom they worked were only indirectly involved with severely handicapped children in the summer program. Where possible, parents whose children were not attending summer programs were requested to respond to the questionnaires.

Program aspects which questionnaire items addressed were the following:

1. need for summer programs for severely handicapped children;
2. program goals;
3. program planning, organization and implementation;
4. program impact on severely handicapped children;
5. parent involvement and satisfaction;
6. staff competence and satisfaction;
7. any problems associated with summer programs.

Construction of questionnaires in a parallel fashion for parents and staff was designed to facilitate comparisons between the two groups. Respondents had the opportunity to reply on a scale from strongly disagree to strongly agree. However, for purposes of analysis the categories were collapsed into three: disagree, neutral and agree. Because of the comments added by individuals not responding to particular questions, it was deemed suitable to include failure to respond in the neutral category. In addition, parents whose children were not in any program indicated that they could only respond to particular items and so left the others unanswered. Only those items to which they responded are included in the count.

Questionnaire responses in number and content revealed a keen interest by both groups in the continuation and success of summer programs for the severely handicapped. A total of 354 questionnaires were returned. Many comments and suggestions were made to the open-ended items of the questionnaire by both parents and staff.

Table 17 displays the number of questionnaire respondents and the number of programs centres represented by the responses by program types. Responses came from 189 parents whose children attended programs in 31 different program sites, as well as four parents whose children did not attend programs. This would indicate that nearly half of the parents responded. However, calculating a response rate would not be meaningful because almost half of the severely handicapped children live in other than single family homes. In some cases, two or more children are in a single foster home; in others, several children live in a group home. Residential staff were encouraged to respond for parents since they were sometimes the only adults who saw the child in after-program hours. Since some items were child specific, one "parent" may have responded for more than one child.

A total of 161 summer staff from 35 program sites responded. This represents more than three-quarters of the staff in summer programs. However, it was not always easy for staff to determine if they were sufficiently involved with severely handicapped in the summer programs to respond to the questionnaires. Therefore, reporting response rate would not be meaningful for staff either.

Table 17

Questionnaire Responses by Sites and Groups

Program Types	Numbers of Program Sites	Numbers of Respondents
High Structure		
Parents	2	36
Staff	2	16
Medium Structure		
Parents	9	66
Staff	9	69
Low Structure		
Parents	12	37
Staff	17	51
Short Programs		
Parents	8	50
Staff	7	25
No Program Parents		4
Total Responses		
Parents	31	193
Staff	35	161

Some questionnaire items attracted large numbers of neutral or nil responses because of the inapplicability of certain questions to all types of programs in view of the great diversity of programs operating in Alberta. For example, in programs that were completely integrated, the item that stated that there should be more integration was answered with a "neutral" response and a comment that the program was already integrated. The same type of comment came from skill and behavior goal-oriented programs to the question which asked them to agree or disagree with need for more emphasis on skills and behaviors.

It is important to note that small numbers of respondents in some of the groups tended to unduly influence the percentages for that group. Such was the case, to some extent, for staff from High Structure Programs.

Need for Summer Programs

Need for summer programs was addressed in four of the questions. On all four items, a large number of both parents and staff showed support for summer programs. Frequently, the responses in this set of questions were in the strongly agree or strongly disagree categories.

Necessity for summer programs was the first item presented. Table 18 displays the percentages of parent and staff responses to this questionnaire item by program types. An overwhelming majority of parents and staff from all programs, as well as three of the four parents whose children were not in a program, strongly believed that summer programs are necessary. A small percentage of both parents and staff from nearly all programs answered this negatively worded item in the affirmative. There were very few neutral responses to this item.

Table 18

Need for Summer Programs: Questionnaire Responses

Summer programs for handicapped children are unnecessary.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	92	3	5
Staff	16	88	0	12
Medium Structure				
Parents	66	91	1	8
Staff	69	91	2	7
Low Structure				
Parents	37	84	0	16
Staff	51	92	2	6
Short Programs				
Parents	50	100	0	0
Staff	25	96	0	4
No Program Parents	4	75	0	25
All Programs				
Parents	189	92	1	7
Staff	161	92	1	7

Participation in future programs for their children was favored by a large proportion of parents, including three of the four parents whose children were not in a program in the summer of 1983. There was very little differentiation among parents whose children attended different types of programs. Few parents indicated disagreement about future attendance for their children and few took a neutral stance on this item. Percentages of responses to this statement by parents in the various types of programs is given in Table 19.

Table 19

Future Program Participation: Questionnaire Responses

Parent: I want my child in a summer program in the future.

		Percentage of Parent Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure	36	3	8	89
Medium Structure	66	2	0	98
Low Structure	37	5	0	95
Short Program	50	0	4	96
No Program	3	0	0	100
All Programs	189	2	3	95

No participation in summer programs and staying home which one item suggested would have been as beneficial for the children as attendance at programs brought strong disagreement from most parents and staff. The only agreement came from parents, although only a few of them agreed. There were few neutral responses and most of those came from parents also. Staff disagreed almost totally that these children would profit as much by staying home for the summer. Table 20 shows percentages of responses to this item by parents and staff.

Table 20

Benefits of No Summer Program: Questionnaire Responses

Parent: My child would have benefited as much by staying home.
Staff: These children would have benefited as much by staying home.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	89	8	3
Staff	16	100	0	0
Medium Structure				
Parents	66	95	3	2
Staff	69	99	1	0
Low Structure				
Parents	37	92	3	5
Staff	51	96	4	0
Short Programs				
Parents	50	78	16	6
Staff	25	100	0	0
All Programs				
Parents	189	89	7	4
Staff	161	98	2	0

Recommendation of programs for other handicapped children received the endorsement of large numbers of parents and staff. However, more staff strongly agreed than simply agreed with this statement while the reverse was true for parents. There were very few neutral responses to this item by either group. Percentages of responses by parents and staff to this statement are given in Table 21.

Table 21

Recommendation of Programs for Other Handicapped Children:

Questionnaire Responses

I would recommend this program for other handicapped children.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	0	3	97
Staff	16	0	6	94
Medium Structure				
Parents	66	0	1	99
Staff	69	4	0	96
Low Structure				
Parents	37	3	8	89
Staff	51	2	0	98
Short Program				
Parents	50	2	2	96
Staff	25	0	0	100
All Programs				
Parents	189	1	3	96
Staff	161	2	1	97

Responses to the need for summer programs for severely handicapped children can best be summarized by parent responses to the open-ended items. These brought many positive comments regarding programs from both parents and staff. One staff member commented that, "Programs such as this are very essential for handicapped children, as well as normal children." After the comment that, "A summer program which gives a good variety of recreational experiences is certainly worthwhile and necessary", one parent added, "The worth of a summer program to an individual shouldn't be measured by specific progress only. It is a very worthwhile program for my child." One parent expressed fears that programs might be eliminated. One comment summarizes the expressed (by 5 parents and 4 staff) and perhaps, unexpressed feelings of parents, "They provide parental relief, sometimes making the difference between parents being able to cope or having the child institutionalized. There are no other support services provided".

Goals of Summer Programs

In view of the differing emphases in various programs in operation in the province, two items attempted to elicit opinions of parents and staff regarding goals of programs. As could be expected, these questions drew diverse responses.

Increased skill and behavior emphasis in the programs was the first aspect questioned. Table 22 presents percentages of responses to the item which required a disagree, neutral or agree response. High Structure programs were directly skill and behavior goal oriented. Therefore, more than one-third of the High Structure program parents and staff took a neutral stance to the statement of increasing the skill and behavior orientation. Perhaps this was the case because no increase would be possible. However, of the other half of parent respondents, more than twice as many agreed as disagreed with increased skill and behavior emphasis. This may have been agreement, not with increasing this emphasis but rather, with the amount of skill and behavior emphasis in the programs attended by their children. In the Medium Structure programs a similar parent profile emerged on the neutral scale but with an evenly divided agreed-disagreed remaining portion of the parent group. In the Low Structure and Short Program groups, almost half of the parents responded in the affirmative, with only about one-quarter disagreeing with increased skill and behavior emphasis.

The staff profile differed somewhat from that of the parents on this question. In the Low Structure programs about one-half of the staff were in favor of increased skill and behavior emphasis while in Medium and Short program groups, a similar proportion disagreed with increasing the stress on skills and behaviors. No staff in the High Structure programs agreed with increasing skill and behavior emphasis while two-thirds disagreed.

When all parents and all staff are combined and compared, about one-third of respondents in both groups took a neutral stance. However, the same proportion of parents agreed and staff disagreed (40%) with increasing emphasis on skills and behavior for summer programs. There were very few responses in any of the groups in the strongly agree or disagree categories.

Table 22

Skill and Behavior Emphasis: Questionnaire Responses

There should be more emphasis on skills and behavior.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	16	42	42
Staff	16	62	38	0
Medium Structure				
Parents	66	30	40	30
Staff	69	43	28	29
Low Structure				
Parents	37	30	27	43
Staff	51	24	29	47
Short Programs				
Parents	50	20	30	50
Staff	25	44	44	12
All Programs				
Parents	189	25	35	40
Staff	162	39	32	29

Increased integration with non-handicapped was the area of interest in one of the items of the questionnaire. Table 23 gives the percentage responses to this item by program types. In all groups, except the High Structure program staff (of which one-half chose to remain neutral), from one-half to three-quarters of parents and staff agreed to increased integration. This was strong agreement in one-third of the cases of agreement for parents from all program types. The highest proportion who disagreed with increased integration of severely handicapped children with non-handicapped were staff in the High Structure programs while the group having the lowest proportion of disagreement were parents of the same programs.

Table 23

Integration with Non-handicapped: Questionnaire Responses

There should be more integration with non-handicapped.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	3	36	61
Staff	16	25	50	25
Medium Structure				
Parents	66	21	32	47
Staff	69	15	30	55
Low Structure				
Parents	37	14	16	70
Staff	51	16	10	74
Short Programs				
Parents	50	12	10	78
Staff	25	8	40	52
All Programs				
Parents	189	14	24	62
Staff	162	15	27	58

Program Planning

Planning of programs was another facet on which opinions of parents and staff were sought. Somewhat different angles were pursued for each of the two categories of respondents. However, both dealt with planning. Table 24 displays the results in percentage of responses from both parents and staff.

When parents were faced with the statement that program information was not given to them early enough, one-half to three-quarters of the parents from the various program groups disagreed. In all but the Medium Structure Program group, nearly one-fifth of the parents agreed with the item. More than one-third of the High Structure program parents chose neutrality.

When staff were presented with an item that indicated that program planning was not carried out early enough, one-quarter of those in the High and Medium Structure programs chose to remain neutral. In the Short Program an overwhelming majority disagreed with the statement, while in Medium and Low Structure groups, about two-thirds did so. Although in the High Structure group, more than one-third disagreed, the same number agreed with the assertion. For High Structure programs, the figures represent small numbers of respondents.

Table 24

Program Planning: Questionnaire Responses

Parent: I did not have information on the program early enough.
Staff: Program planning was not carried out early enough.

Program Types	N	Percentage of Responses		
		Disagree	Neutral	Agree
High Structure				
Parents	36	44	42	14
Staff	16	38	31	31
Medium Structure				
Parents	66	82	10	8
Staff	69	61	23	16
Low Structure				
Parents	37	65	19	16
Staff	51	61	12	27
Short Programs				
Parents	50	64	18	18
Staff	25	92	8	0
All Programs				
Parents	189	67	20	13
Staff	161	63	18	19

Various problem areas related to program planning were mentioned by staff in response to the open-ended items. These items gave respondents the opportunity to state what was most and least liked in programs, as well as any problems they experienced in relation to programs. The problems mentioned most frequently in the area of program planning were the lack of staff and of children in summer programs. Responses are summarized in Table 25 according to the number of times each was listed. Complete responses to open-ended items are listed in Appendix D.

Table 25

Program Planning: Staff Comments

Comments	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Objectives not clear	0	0	1	0
Goals differed for group home & program	1	0	2	0
Lack written resources & games adapted to handicapped	0	0	2	0
Short staffed	0	8	6	7
Too few children	0	1	4	0

Program Implementation

Program implementation was considered in several of the items. In addition, four open-ended questions gave ample opportunity for respondents to further clarify their responses or to express any areas of particular concern to them.

Length of programs was considered an important element since programs in Alberta vary in duration. Therefore, one item to which agreement or disagreement was sought indicated that the programs just terminated were too short. Table 26 gives percentages of responses in each category for all groups. Nearly all of the parents from Medium Structure programs agreed with this statement, while about half of those from Short programs did. However, one-half of the parents from High Structure and nearly one-half from Low Structure programs disagreed. No parents from the Medium Structure group chose neutrality on this item, although about one-quarter of parents from the other groups did so.

Staff responses on this item were less unanimous than were those of parents. Only in the Medium Structure group was there a larger proportion in one of the categories: nearly three-quarters of the staff disagreed with the statement. In High and Low Structure groups, responses were split, with about one-third choosing each category, including neutral. In Short Programs more than one-half of the staff chose neutrality.

Table 26

Length of Programs: Questionnaire Responses

This summer's program was too short.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	50	28	22
Staff	16	38	31	31
Medium Structure				
Parents	66	2	0	98
Staff	69	65	22	13
Low Structure				
Parents	37	46	22	32
Staff	51	28	39	33
Short Programs				
Parents	50	22	24	54
Staff	25	16	60	24
All Programs				
Parents	189	25	16	59
Staff	161	43	34	23

Satisfaction and dissatisfaction with program length was mentioned several times in the open-ended questions. Generally, programs were considered too short or just right in length. Table 27 displays condensed comments on program length.

Table 27

Program Length: Parent and Staff Comments

Types of Comments	Numbers of Comments by Program Types: High Structure	Medium Structure	Low Structure	Short Programs
Program length just right				
Parents	5	0	0	1
Staff	0	0	0	1
Program too short				
Parents	3	1	3	6
Staff	1	2	11	4
Program too long				
Staff	0	1	0	0
Too early in the day				
Parents	1	0	0	0
Day too short				
Parents	0	0	0	2
Day too long for little ones				
Staff	0	1	0	0

Program organization was queried. Table 28 presents data in percentages of disagreement, neutrality and agreement to this item of the questionnaire. More than three-quarters of all parents and staff indicated that they believed that summer programs were well organized. However, for staff groups the range of agreement was somewhat higher than it was for parents. Generally more parents remained neutral. There was a small percentage of disagreement from parents and staff in all but High Structure groups. Disagreement with the assertion that programs were well organized was highest in Medium and Low Structure programs.

Table 28

Program Organization: Questionnaire Responses

This summer's program was well organized.

Program Types	N	Percentage of Responses		
		Disagree	Neutral	Agree
High Structure				
Parents	36	5	14	81
Staff	16	0	12	88
Medium Structure				
Parents	66	6	9	85
Staff	69	13	4	83
Low Structure				
Parents	37	5	11	84
Staff	51	10	10	80
Short Programs				
Parents	50	8	16	76
Staff	25	4	4	92
All Programs				
Parents	189	6	12	82
Staff	161	9	7	84

Program organization was also commented upon by parents and staff in open-ended items. Various aspects of organization are summarized in Table 29 which gives numbers of comments by parents and staff.

Table 29

Program Organization: Parent and Staff Comments

Types of Comments	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Well organized & diverse				
Parents	1	2	0	0
Staff	0	2	1	1
Not well organized/ organization disliked				
Parents	1	0	0	1
Staff	1	6	1	0

Time organization in terms of time spent in ancillary tasks which could reduce time directly with children was questioned. Information on parent and staff perceptions on how time was spent is shown in Table 30. From one-fifth to two-fifths of parents in all programs opted for a neutral position. One-quarter of High Structure staff decided to remain neutral, while a smaller proportion in the other programs did so. Twice as many parents whose children attended High Structure programs disagreed with this statement when compared with staff from the same type of programs, one-half of whom disagreed.

Agreement with the statement that too much time was spent on organizational and paper tasks was nil for High and Short Structure parents and Medium Structure staff and minimal for other groups, except the High Structure program where one-quarter of the staff agreed. However, it must be noted that a small number of responses for High Structure unduly influenced the percentage for this category, since the number of staff in all was small.

Table 30

Time Organization: Questionnaire Responses

Too much time was spent on organizational and paper tasks.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	81	19	0
Staff	16	50	25	25
Medium Structure				
Parents	66	65	32	3
Staff	69	86	14	0
Low Structure				
Parents	37	60	35	5
Staff	51	80	12	8
Short Programs				
Parents	50	60	40	0
Staff	25	84	12	4
All Programs				
Parents	189	66	32	2
Staff	161	80	14	6

Various aspects of program implementation were also mentioned several times by parents and staff in response to open-ended items. Table 31 summarizes favorable and unfavorable comments of parents and staff according to program type for several areas of program implementation.

Table 31

Program Implementation: Parent and Staff Comments

	Numbers of Comments by Program Types			
Types of Comments	High Structure	Medium Structure	Low Structure	Short Programs
Good atmosphere/program				
Parents	3	6	2	2
Staff	0	7	4	3
Liked low ratio & time for individualized work				
Parents	3	0	0	1
Staff	3	4	2	5
Insufficient time for individualized work				
Parents	0	1	0	0
Staff	2	2	1	0
Too diverse age/ability				
Staff	0	2	3	1
Disliked overtime				
Staff	4	3	0	0
Liked intensity of programming				
Parents	1	0	0	0
Staff	1	0	0	0
Methods too restrictive				
Staff	1	0	0	0
Lack of proper physical care				
Parents	0	3	4	0
Children appear over-medicated				
Staff	1	0	0	0

Appropriateness and adequacy of facilities provided was another aspect of program implementation which was referred to by parents and staff. Table 32 indicates numbers of parent and staff comments regarding appropriateness and adequacy of space. One parent commented that the program should not have been held in the school for the handicapped. One staff member felt that "special needs children could learn more in the natural environment than in the classroom". Others mentioned lack of space for the numbers of children, as well as lack of convenience for items such as having only a pay phone to use in case of emergencies.

Table 32

Suitability of Program Facility: Parent and Staff Comments

	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Inappropriate facility				
Parents	0	0	1	0
Staff	0	1	0	0
Inadequate facility				
Staff	8	0	2	2

Transportation was a problem that surfaced in conversations and was mentioned several times in the parent and staff comments. In rural areas, children were not always able to come the long distances. In cities, programs were at times located far from children's homes. This necessitated early rising and long bus rides, a hardship for both parents and children. One parent was happy that the program was nearby, thus facilitating attendance. Table 33 gives the numbers of comments made regarding transportation to summer programs.

Table 33

Transportation: Parent and Staff Comments

	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Insufficient				
Parents	4	0	2	1
Staff	0	8	12	1
Long bus ride				
Parents	3	0	1	1
Staff	0	0	1	0

Funding was another area that presented problems, either because it was felt there was too little or the timing of funding information and/or approval came late. Lack of adequate funding was blamed for some children not being able to attend, as well as limiting opportunities for broader experiences and more adequate programming, particularly for rural children. It was believed by some that had funding been made available sooner, earlier hiring and better training of staff, as well as better program preparation would have been possible. Table 34 summarizes comments from parents and staff in relation to funding.

Table 34

Funding: Parent and Staff Comments

	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Too little				
Parents	0	0	2	1
Staff	0	7	9	2
Too late				
Parents	0	0	3	0
Staff	1	1	3	0
Fees a problem				
Parents	0	1	3	1

The final questions asked of staff was: "Were the objectives of your summer program realized?" Table 35 gives the numbers of staff with the way they responded by program type. A majority responded in the affirmative. As opportunity was provided for explanations, positive comments in relation to programs were added by many respondents.

Table 35

Objectives Achieved: Numbers of Staff Comments

Program Types	Yes	Mostly/Some	No Response
High Structure	11	0	5
Medium Structure	51	5	13
Low Structure	46	3	2
Short Programs	21	1	3
All Programs	129	9	23

Staffing of Summer Programs

Success of programs was dependent, to a great extent, on the quality of staff. Most programs hired university and high school students almost exclusively. Were they well prepared for this difficult task? Were they competent in programming for severely handicapped children? Were parents involved? Was there adequate help available for staff and parents when problems arose? These were areas in which parent and staff opinions were sought.

Staff preparation prior to summer programs was an aspect of staff qualifications that was brought to the staff for their opinion. Table 36 gives percentage responses to this question by program types. The largest proportion of staff who disagreed with the questionnaire's claim of inadequate staff preparation came from Short programs, followed closely by Medium Structure programs. Staff from High Structure programs had a larger percentage of agreement than disagreement, although one-quarter chose to take a neutral position.

Table 36

Staff Preparation: Questionnaire Responses

Staff: Staff preparation prior to the program was inadequate.

		Percentage of Staff Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure	16	44	25	31
Medium Structure	69	83	6	11
Low Structure	51	66	12	22
Short Programs	25	88	8	4
All Programs	161	74	10	16

The adequacy of staff preparation was cited as a problem by parents and staff in the open-ended items. Table 37 summarizes comments in this area. The need to get to know the individual children with whom they were to work, as well as additional training on how to deal with handicapped children and recreation particularly suited to the handicapped were suggested by respondents. One staff member made reference to the excellent preparation which was made available for summer staff because they were allowed to go into the schools and teachers helped them get to know the handicapped children with whom they would be working. One staff member stated that there was a need to "stress leadership by people with experience and education in this field". Several times, there was mention of lateness of information that funding would be available which hindered early hiring and adequate preparation of staff.

Table 37

Staff Preparation: Parent and Staff Comments

	Numbers of Comments by Program Types			
Types of Comments	High Structure	Medium Structure	Low Structure	Short Programs
Satisfactory				
Staff	0	2	0	1
Insufficient				
Parents	4	1	1	0
Staff	1	5	6	0

Staff competence was an area in which parent opinions were sought and which are summarized in Table 38. Although one-quarter of High Structure staff thought their preparation was inadequate, more than four-fifths of the parents believed the staff were competent. In Medium Structure programs, more than four-fifths of the parents also agreed that staff were competent, while this agreement, although lower, still remained high (about two-thirds) in Low Structure and Short programs. In the latter two programs, about one-third of the parents chose neutrality. There was almost no disagreement with this statement.

Table 38

Staff Competence: Questionnaire Responses

Parent: The staff were competent in programming for handicapped.

Program Types	N	Disagree	Neutral	Agree
		Percentage of Parent Responses		
High Structure	36	0	14	86
Medium Structure	66	2	12	86
Low Structure	37	5	27	69
Short Programs	50	2	32	66
All Programs	189	2	21	77

Table 39 summarizes the numbers of comments regarding opinions on staff competence. Parents were most laudatory. A few examples of the comments made to describe staff were: "helpful", "competent", "super", "patient", "fun", "caring", "dedicated", "understanding", "concerned about child", "genuinely interested", ability to work with each child". Problems in parent-staff communication appeared to be infrequent. In only a few cases were there references to problems between staff members.

Table 39

Staff Competence: Parent and Staff Comments

Types of Comments	High Structure	Medium Structure	Low Structure	Short Programs
	Numbers of Comments by Program Types			
Capable staff				
Parents	12	10	9	10
Staff	0	2	0	1
Staff problems				
Parents	0	0	1	0
Staff	1	2	5	1
Good communication				
Parents	1	3	0	1
Staff	2	0	0	1
Communication problems				
Parents	2	1	2	4
Staff	0	1	4	0

Parent involvement in summer programs was explored with one statement addressed to staff. Table 40 displays the data for staff responses. In High Structure programs one-quarter agreed that there was too little involvement with parents/group homes while in Medium Structure the proportion rose to one-third and in Low Structure programs, above one-third. Only in the Short programs was there a high proportion (82%) who disagreed. Disagreement in Low Structure programs was nearly one-half of the respondents, while in High and Medium Structure programs, slightly more than one-third disagreed. In addition, about one-third of the High and Medium Structure groups remained neutral.

Table 40

Parent Involvement: Questionnaire Responses

Staff: There was too little involvement with parents/group homes.

		Percentage of Staff Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure	19	19	44	37
Medium Structure	69	36	30	40
Low Structure	51	47	14	39
Short Programs	25	76	8	16
All Programs	161	44	23	33

Involvement by the community: the town, parents, or other volunteers was spoken of by staff. In one instance, lack of interest by the town almost prevented a summer program from taking place. In other instances, lack of parent participation and support created problems. Table 41 gives the numbers of times comments were made relating to outside involvement in summer programs.

Table 41

Parent & Community Involvement: Parent & Staff Comments

Types of Comments	High Structure	Medium Structure	Low Structure	Short Programs
	Numbers of Comments by Program Types			
Lack of parent interest and participation				
Parents	0	1	1	0
Staff	0	7	1	0
Lack of town involvement				
Parents	0	0	1	0
Staff	0	2	2	0

The availability of professional help when needed was questioned. Table 42 gives percentage of responses as well as the slightly different statements for each category of respondents. According to more than three-quarters of all respondents from all program types, help was available. The highest percentage who disagreed when the item suggested that help was not available came from High Structure program parents and staff. Medium Structure parents had the lowest proportion of disagreement (79%) and the highest proportion of agreement (17%) on this question.

Table 42

Availability of Professional Help: Questionnaire Responses

Parent: When I had questions or problems, the staff were not helpful.

Staff: When problems or questions arose, there was no one to help.

Program Types	N	Percentage of Responses		
		Disagree	Neutral	Agree
High Structure				
Parents	36	94	6	0
Staff	16	88	12	0
Medium Structure				
Parents	66	79	4	17
Staff	69	86	13	1
Low Structure				
Parents	37	87	10	3
Staff	51	86	2	12
Short Programs				
Parents	50	86	14	0
Staff	25	84	12	4
All Programs				
Parents	189	85	9	6
Staff	161	86	9	5

Staff satisfaction could be gauged by whether they wanted to work in future summer programs after the present experience. Table 43 presents the data from this staff questionnaire item. Over three-quarters of all staff indicated that they would like to do so. Very few disagreed with the positively worded item: none in Short programs, 2% in Low Structure, 7% in Medium Structure and 12% in High Structure programs.

Table 43

Staff Satisfaction: Questionnaire Responses

Staff: I would like to work in a summer program in the future.

		Percentage of Staff Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure	16	6	0	94
Medium Structure	69	7	16	77
Low Structure	51	2	10	88
Short Programs	25	0	8	92
All Programs	161	4	11	85

Staff satisfaction emerged in the numerous comments made by staff about programs and programming. Table 44 gives staff likes and dislikes by types of programs. Other aspects which staff disliked are given elsewhere according to the topic to which they referred. In general, staff were happy with their experience and with the general thrust of programming, whether they worked in educational or recreational programs. The only substantial complaint they had was the insufficient training as cited earlier. And this they attributed, at least partly, to the timing of funding availability.

Table 44

Staff Satisfaction: Staff Comments

Types of Comments	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Aspects liked:				
Work with children	3	7	5	5
Freedom in programming	2	2	1	0
Programming approach	5	1	0	0
Own learning experience	3	5	3	0
Aspects disliked				
Low wages	0	0	1	0

Impact on Severely Handicapped Children

Assessing the impact of summer programs on severely handicapped children, especially on their basic skills and inappropriate behaviors as a result of summer programming, was a major purpose of this study. Therefore, parents and staff were asked to consider three statements on this topic.

Impact on inappropriate behaviors was the first area addressed. The difference in wording for parents and staff, as well as the percentage of their responses to this item is displayed in Table 45. A large proportion of both parents and staff chose to remain neutral when it was stated that children had improved in behaviors. Generally, more parents than staff chose neutrality. The exception was the staff in Short programs with almost all of the staff (95%) not expressing an opinion either for or against the statement. About one-half of all respondents chose to express their opinion and of those, most agreed that there had been improvement.

Table 45

Impact on Inappropriate Behaviors: Questionnaire Responses

Parent: My child's behavior has improved during the summer.

Staff: The children's behavior has improved during the summer.

		Percentages of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	8	45	47
Staff	16	0	16	94
Medium Structure				
Parents	66	6	42	52
Staff	69	3	42	55
Low Structure				
Parents	37	5	60	35
Staff	51	6	27	67
Short Programs				
Parents	50	8	60	32
Staff	25	0	92	8
All Programs				
Parents	189	7	51	42
Staff	161	3	42	55

Impact on skills was also considered. Table 46 details this information on skill improvement during the summer. For the statement indicating that skills had improved, over one-half of all respondents agreed. However, about one-third of all parents and all staff, except High Structure, took a neutral stance on this item. Some parents indicated that it was too soon to be able to make this judgment. Almost no one disagreed.

Table 46

Inpact on Skills: Questionnaire Responses

Parent: My child's skills have improved during the summer.

Staff: The children's skills have improved during the summer.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	3	31	67
Staff	16	6	6	88
Medium Structure				
Parents	66	3	41	56
Staff	69	2	30	68
Low Structure				
Parents	37	5	41	54
Staff	51	8	33	59
Short Programs				
Parents	50	12	46	42
Staff	25	4	76	20
All Programs				
Parents	189	6	40	54
Staff	161	4	36	60

Many comments from parents and staff to the open-ended statements referred to impact of programs on their severely handicapped children. Table 47 condenses their comments regarding the skill and behavior orientation and results of program. These comments often summarized and further explained their responses to the structured items. Skills and behaviors were frequently mentioned aspects of programming. Insufficient emphasis on skills and behaviors was noted most frequently in Short followed by Low Structure programs. However, improvement was commented on most frequently by High Structure parents and Medium Structure staff.

Table 47

Skill & Behavior Program Aspects: Parent & Staff Comments

	Numbers of Comments by Program Types			
Types of Comments	High Structure	Medium Structure	Low Structure	Short Programs
Liked behavior focus				
Parents	4	0	0	0
Skills were maintained				
Parents	4	0	0	0
Staff	0	7	0	0
Skills & behaviors improved				
Parents	8	3	0	2
Staff	0	0	1	5
Insufficient emphasis				
Parents	1	1	1	8
Staff	0	0	2	2
School programs continued				
Parents	1	1	1	0
Staff	0	1	0	0

Goals and impact of programs, other than those specifically mentioned by the questionnaire items were added by parents and staff in response to open-ended items. Table 48 summarizes these additional references. Recreation was an important aspect of many summer programs and was frequently mentioned in a positive light. Among the comments were learning in a fun atmosphere, the interest and enjoyment evidenced by the children as well as the value of doing new things and going new places. Others noted that recreation should be added to the skill and behavior emphasis.

Table 48

Recreation Aspects: Parent and Staff Comments

Types of Comments	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Liked recreation emphasis				
Staff	0	4	7	8
Was stimulating & enjoyable				
Parents	4	1	5	7
Staff	0	20	7	2
Was both fun & learning				
Parents	0	1	0	0
Staff	0	12	7	2
Liked variety of activities				
Parents	0	24	11	20
Staff	0	18	16	9
Were lack of activities				
Parents	1	1	4	0
Staff	0	0	1	0
Were excess of activities				
Parents	0	1	3	1
Staff	0	2	5	2

Table 49 displays numbers of parent and staff responses to the open-ended items which mentioned the integration aspect of summer programs. The positive effects of integration with non-handicapped children and community exposure was listed by many respondents. In addition, there was mention that integrated programs were too demanding of handicapped children and that as result, the handicapped children's skills were not developed. One parent response indicated that the child should be with higher functioning children and another mentioned the need of good models for the handicapped. One staff member revealed that some parents did not send their lesser handicapped children because of the presence of severely handicapped children in the programs as if there was a stigma attached to the programs. In other instances, although a program for non-handicapped children operated in the same facility, staff with the handicapped felt that their program and children were not well accepted by the other program staff. However, negative comments regarding integration were few compared to the positive feelings.

Table 49

Integration: Parent and Staff Comments

Types of Comments	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Positive effects of integration with non-handicapped children				
Parents	0	3	5	2
Staff	0	8	17	0
Positive effects of integration in community				
Parents	0	1	2	3
Staff	0	5	1	0
Insufficient integration				
Parents	0	1	0	0
Integrated programs too demanding for handicapped				
Staff	0	5	0	0
Handicapped children & programs not accepted				
Staff	0	0	6	0

Socialization and contact with other children were mentioned. Feelings of accomplishment, self-awareness, sense of belonging were also suggested as benefits of programs. Table 50 gives numbers of parents and staff from each program type who mentioned these aspects as benefits of summer programs.

Table 50

Socialization: Parent and Staff Comments

Types of Comments	Numbers of Comments by Program Types			
	High Structure	Medium Structure	Low Structure	Short Programs
Socialization for child				
Parents	0	3	4	0
Staff	0	3	3	1
Child busy and involved				
Parents	0	3	3	2
Attention given to child				
Parents	2	2	1	1
Developed child's self-awareness & self-confidence				
Staff	0	1	1	0

Overall improvement in the child as visible to others again brought forth neutrality. The differentiation between groups on this item may reflect the type of respondent. A number of children in some of the programs lived in group home situations and so the question was not applicable in the same fashion as for those who lived with parents. Of the remainder (about one-half of all respondents) almost all agreed and few disagreed. Table 51 gives the percentage of responses for parents from the various groups to this statement.

Table 51

Noticeable Overall Improvement: Questionnaire Responses

Parent: Friends and relatives have noticed my child's improvement.

Program Types	N	Percentage of Parent Responses Disagree	Neutral	Agree
High Structure	36	8	28	64
Medium Structure	66	3	47	50
Low Structure	37	8	46	46
Short Programs	50	12	50	38
All Programs	189	7	44	49

Parent and staff comments noted that there was general improvement in the children during summer programs. Table 52 summarizes and gives the numbers of these comments for both groups.

Table 52

Improvement in Children: Parent and Staff Comments

Types of Comments	Numbers of Comments by Program Types High Structure	Medium Structure	Low Structure	Short Programs
Improvement noticed				
Parents	2	6	1	0
Staff	2	3	0	0

Impact of the demands placed on the child by program orientation and length revealed that a large majority of parents and staff found that the day was not too long nor the program too demanding for the children. However, in some of the programs this majority dropped to about three-quarters on these items. Tables 53 and 54 portray responses on two items dealing with this topic. Differentiation in item wording for parents and for staff is included.

Table 53

Impact of Length of Day: Questionnaire Responses

Parent: For my child, the day was too long.

Staff: For a handicapped child, the day was too long.

		Percentage of Responses		
Program Types	N	Disagree	Neutral	Agree
High Structure				
Parents	36	89	3	8
Staff	16	62	19	19
Medium Structure				
Parents	66	91	8	1
Staff	69	73	10	17
Low Structure				
Parents	37	76	13	11
Staff	51	78	4	18
Short Program				
Parents	50	86	10	4
Staff	25	84	4	12
All Programs				
Parents	189	86	9	5
Staff	161	75	8	17

Table 54

Impact of Program Requirements

Parent: For my child, the program was too demanding.

Staff: For a handicapped child, the program was too demanding.

Program Types	N	Percentage of Responses		
		Disagree	Neutral	Agree
High Structure				
Parents	36	92	5	3
Staff	16	100	0	0
Medium Structure				
Parents	66	74	17	9
Staff	69	88	10	2
Low Structure				
Parents	37	89	8	3
Staff	51	96	4	0
Short Programs				
Parents	50	84	10	6
Staff	25	96	4	0
All Programs				
Parents	189	83	11	6
Staff	161	93	6	1

Over-all impact of programming on severely handicapped children was, in the opinions of parents and staff, a beneficial one. Without summer programming, the children would suffer, not only in skills and behaviors, but would lack the stimulating effects of being with other children and adults. The community, in general, and the summer staff, in particular, would be deprived of the opportunity of working with and becoming comfortable with handicapped individuals and thus of becoming more accepting of those who are "different".

Impact Study of Effect on Children

Immediate Impact on Inappropriate Behaviors

To determine the impact of summer programming on severely handicapped children in Alberta, 201 school age dependent and multihandicapped children were selected to participate in a study. These children attended various types of programs during the summer of 1983.

Several questions asked at the onset provided direction for the study. These queries arose from the research literature and the need for Alberta Education to ascertain the value of summer programs for severely handicapped children and the wisdom of continuing to provide funding for them.

The question addressed by this phase of the study was:

Do summer programs for severely handicapped children prevent regression to increased inappropriate behaviors or produce a decrease in inappropriate behaviors?

In order to answer this question, observations collected on the Inappropriate Behaviors Observation Checklist were analyzed using analysis of covariance for significance of differences between groups on each area of behavior recorded on the instrument.

Four areas of inappropriate behavior as well as the total score showed significant differences between groups on the adjusted posttest (postprogram) means averages. These differences favored High and Medium Structure programs. In the three areas of inappropriate behaviors which did not reveal significant differences, behaviors occurred infrequently in all program groups.

Complete discussion of results with tables of the two-way analysis of covariance on inappropriate behaviors following summer programs can be found in Appendix E.

Follow-up Study: Impact on Behaviors

The follow-up study was carried out in the middle of the year subsequent to the summer programs under consideration. From the original sample of 201 children, 186 children were available for this phase of the study and are the subjects for the analysis of data reported in this part of the report. The question which guided the analysis of impact on behaviors for the midyear follow-up was:

Do groups of severely handicapped children who following summer programs had significantly different inappropriate behavior group means retain these differences midway during the subsequent school year?

In order to answer this question, data gathered midway in the school year, utilizing the Inappropriate Behaviors Observation Checklist, as well as the two sets of data collected earlier were included in the analysis. A two-way anlysis of variance with repeated measures on one independent variable was utilized for comparisons of delayed postprogram levels (midyear posttest scores) with pretest and posttest levels. This analysis was carried out for each subtest as well as for the total behaviors of the Inappropriate Behaviors Observation Checklist. Pairwise comparisons of the interaction effects were then calculated using Scheffe's multiple comparison test, calculated according to the procedures presented in Ferguson (1976, p. 296).

Significant differences were found among groups on some areas as measured by this instrument. The differences observed tended to favor the No, Short and Low Structure programs on the delayed posttest measure rather than the High and Medium Structure groups in contrast to the results at the end of the summer.

Inappropriate passive behaviors. Table 55 displays the information on preprogram, postprogram and delayed posttest scores for inappropriate passive behaviors. For these behaviors, Figure 1 provides a visual representation of the increase and decrease in these mean scores for all groups. Following summer programs, both High and Medium Structure groups mean scores had decreased while those of the No Program, Short Program and Low Structure programs increased. However, the opposite effect was evident in midyear mean scores with regression (increase in inappropriate passive behaviors) occurring in the High and Medium Structure groups while the other groups either retained the same level or improved behaviors (decreased in inappropriate behaviors).

Table 55

Inappropriate Passive Behaviors

Pretest, Posttest, Delayed Posttest Scores

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram Mean	Preprogram SD	Postprogram Mean	Postprogram SD	Delayed Mean	Delayed SD
No Program	54	13.80	11.82	19.63	13.50	20.39	15.86
Short Program	44	20.34	12.87	30.07	24.57	22.50	13.34
High Structure	21	14.95	15.42	7.62	8.68	26.05	17.38
Medium Structure	32	14.38	18.68	8.56	16.12	35.44	22.52
Low Structure	35	22.00	15.74	26.23	20.38	24.09	16.20

Figure 1

Inappropriate Passive Behaviors

Pretest, Posttest, Delayed Posttest Scores

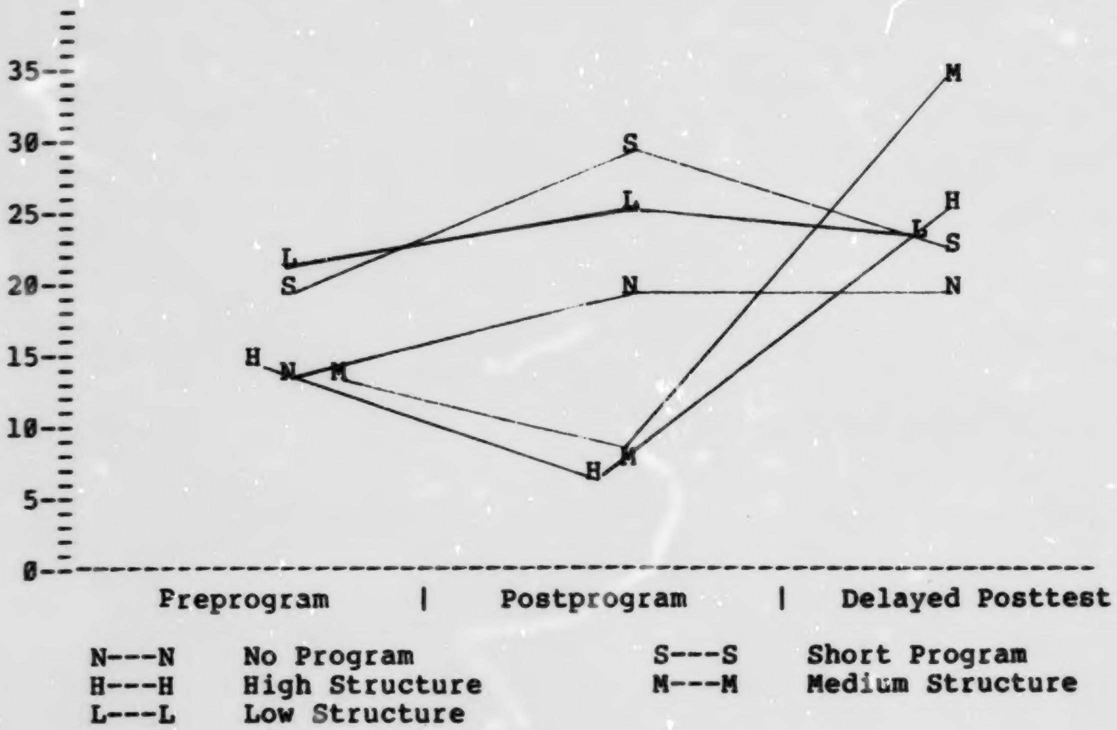


Table 56 gives the results of the analysis of variance with repeated measures on one independent variable followed by Scheffe's multiple comparison of groups. The analysis of variance revealed significant differences for program main effects, F(4, 181) = 3.4, $p < .01$; for time main effects, F(2, 362) = 16.6, $p < .01$; and for interaction effects, F(8, 362) = 8.5, $p < .01$.

When pairwise comparisons were made for interaction effects, significant differences in changes during the fall-winter period were evident between combined High and Medium Structure groups compared with combined Short and Low Stucture programs, F(8, 362) = 53.73, $p < .01$; as well as combined High and Medium Structure programs and the No Program group, F(8, 362) = 28.94, $p < .01$. There were significant differences between combined High and Medium Structure programs compared to combined Short and Low Structure programs in change scores for the two time periods under consideration, F(8, 362) = 39.82, $p < .01$.

Table 56

Inappropriate Passive Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	5396.5	4	1349.1	3.4	0.010
S_w Groups	71142.9	181	393.1		
Time	7205.7	2	3602.8	16.6	0.001
Interaction	14962.0	8	1870.3	8.5	0.001
$T \times S_w$	78376.1	362	216.5		

Interaction Effects: Pairwise Comparisons

	Obtained F Values		
Program Types	T_1-T_2[a]	T_2-T_3[b]	C_1-C_2[c]
Medium + High vs. No + Short + Low	14.59		
Medium + High vs. Short + Low		53.73**	39.82**
Medium + High vs. No		28.94**	3.50
No vs. Low + Short		2.31	

[a] refers to the difference between mean scores on the first and second time of data collection.

[b] refers to the difference between mean scores on the second and third time of data collection.

[c] refers to the difference in change scores between the two time periods.

* $p<.05$ (Critical F = 15.68 Using Scheffe's multiple comparison test)

** $p<.01$ (Critical F = 20.43 Using Scheffe's multiple comparison test)

Inappropriate active behaviors. Table 57 displays the group means for inappropriate active behaviors. Figure 2 graphically depicts the small changes for the three points in time. In all of the programs, these behaviors decreased slightly between September and March.

Table 57

Inappropriate Active Behaviors

Pretest, Posttest, Delayed Posttest Scores

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram Mean	Preprogram SD	Postprogram Mean	Postprogram SD	Delayed Post Mean	Delayed Post SD
No Program	54	7.96	10.85	8.91	11.57	4.72	7.15
Short Program	44	13.32	14.73	14.41	14.45	8.93	11.50
High Structure	21	18.19	15.57	14.24	13.34	10.00	10.05
Medium Structure	32	9.34	12.10	9.03	11.40	7.88	7.38
Low Structure	35	9.54	7.92	11.17	13.51	4.06	5.03

Figure 2

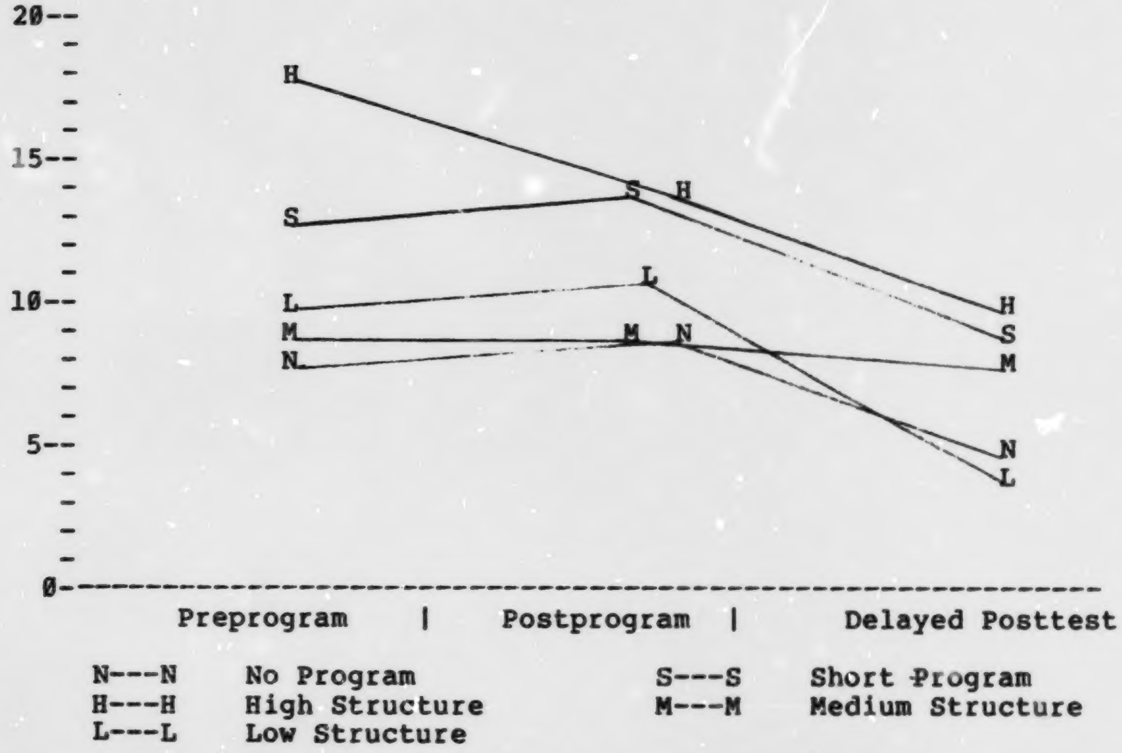


Table 58 displays the two-way analysis of variance results for inappropriate active behaviors. Significant differences were evident for program main effects, F(4, 181) = 3.3, $p < .05$; as well as for time main effects, F(2, 362) = 18.5, $p < .01$. However, there were no significant interaction effects between time and programs. No significant differences in change scores between programs occurred.

Table 58

Inappropriate Active Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	3478.5	4	869.6	3.3	0.012
S_w Groups	47717.5	181	263.6		
Time	2265.4	2	1132.7	18.5	0.001
Interaction	727.0	8	90.8	1.5	0.162
T x S_w	22205.0	362	61.3		

Self-abusive behaviors. Table 59 shows the means and standard deviations for all programs at each of the three data collection times. A comparison of program groups on self-abusive behaviors revealed a very low level of frequency for all groups at the three points in time. Table 60 gives the results of analysis of variance for self-abusive behaviors by program types. Significant differences were evident only for time main effects, F(2, 362) = 7.2, $p < .01$.

Table 59

Self-Abuse: Pretest, Posttest, Delayed Posttest Scores

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram Mean	SD	Postprogram Mean	SD	Delayed Post Mean	SD
No Program	54	.093	.351	1.019	2.507	.796	2.032
Short Program	44	.591	2.609	1.523	4.262	2.114	5.567
High Structure	21	.476	1.250	2.381	5.545	2.810	3.723
Medium Structure	32	.594	2.014	.344	1.335	1.969	3.560
Low Structure	35	.514	2.874	.943	3.369	.724	1.979

Table 60

Self-Abusive Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	109.9	4	27.5	2.0	0.098
S_w Groups	2494.9	181	13.8		
Time	130.0	2	65.0	7.2	0.001
Interaction	83.7	8	10.5	1.2	0.328
T x S_w	3288.6	362	9.1		

Inappropriate personal behaviors. Table 61 gives the data on pretest, posttest and delayed posttest means on inappropriate personal behaviors. Evident in the Figure 3 graphic depiction are the decreases for Medium and High Structure groups following summer programs with the opposite occurring in the midyear period, that is, an increase in inappropriate personal behaviors. Howver, equally evident is the reversal in trends for No, Short and Low Structure groups from increased inappropriate personal behaviors immediately following summer programs to a decrease in these behaviors during the first half of the school year. All groups returned to levels of behaviors similar to their pre-summer levels.

The analysis of variance and Scheffe's pairwise comparison results are shown for inappropriate personal behaviors in Table 62. There were significant differences in change scores over the summer between combined High and Medium Structure groups compared to combined No, Short and Low Structure groups, F(8, 362) = 15.84, p < .05; as well as significant differences in change scores for the two time periods, June to September and September to March, F(8,362) = 18.92, p < .05. However, there were no significant differences between them on changes during the school year. No other significant differences among groups were evident in personal inappropriate behaviors.

Table 61

Inappropriate Personal Behaviors

Pretest, Posttest, Delayed Posttest Means

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram		Postprogram		Midyear Post	
		Mean	SD	Mean	SD	Mean	SD
No Program	54	20.43	16.48	28.30	21.57	22.28	17.79
Short Program	44	26.07	19.03	33.52	31.74	28.25	21.46
High Structure	21	30.14	26.38	25.10	26.29	29.10	22.76
Medium Structure	32	26.69	19.88	19.84	28.45	28.72	18.06
Low Structure	35	21.26	18.69	40.09	53.36	24.20	19.93

Figure 3

Inappropriate Personal Behaviors

Pretest, Posttest, Delayed Posttest Means

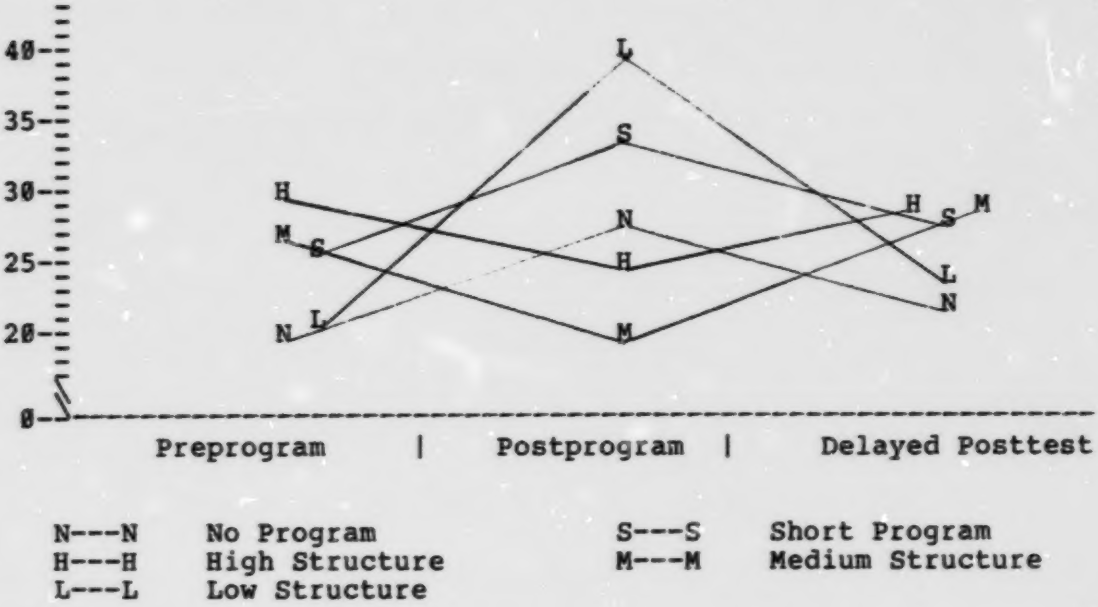


Table 62

Inappropriate Personal Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	2369.6	4	592.4	0.6	0.715
S_w Groups	202756.6	181	1820.2		
Time	1711.6	2	855.8	2.5	0.085
Interaction	9246.2	8	1155.8	3.4	0.001
T x S_w	124971.6	362	345.2		

Interaction Effects: Pairwise Comparisons

Program Types	Obtained F Values T_1-T_2[a]	T_2-T_3[b]	C_1-C_2[c]
Medium + High vs. No + Short + Low	15.84*	12.67	18.92*
Medium vs. High		.44	

[a] refers to the difference between mean scores on the first and second times of data collection.

[b] refers to the difference in mean scores between the second and third times data was collected.

[c] refers to the difference in change scores between the two time periods.

* $p<.05$ (Critical F = 15.68 Using Scheffe's multiple comparison test)

** $p<.01$ (Critical F = 20.43 Using Scheffe's multiple comparison test)

Inappropriate repetitive behaviors. Table 63 presents pretest, posttest and delayed posttest mean scores. Figure 4 depicts these graphically for each program group. Comparisons of before and after summer programming mean scores for repetitive behaviors revealed that no group regressed during the summer and the No Program means actually decreased. However, in the delayed posttesting, No, Short and Low Structure programs decreased inappropriate behaviors exhibited earlier. Medium and High Structure program groups had decreased their inappropriate behaviors in this area after summer programs. However, midyear testing revealed an increase of means in inappropriate repetitive behaviors similar to the earlier decrease.

Table 63

Inappropriate Repetitive Behaviors

Pretest, Posttest, Delayed Posttest Means

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram Mean	Preprogram SD	Postprogram Mean	Postprogram SD	Delayed Post Mean	Delayed Post SD
No Program	54	28.15	43.65	20.35	21.91	17.44	14.88
Short Program	44	33.07	26.85	32.18	26.57	28.66	22.63
High Structure	21	38.67	31.42	28.71	25.36	35.00	22.00
Medium Structure	32	29.19	22.16	13.72	18.18	28.25	22.91
Low Structure	35	21.86	18.67	22.63	23.83	18.43	17.62

Figure 4

Inappropriate Repetitive Behaviors

Pretest, Posttest, Delayed Posttest Means

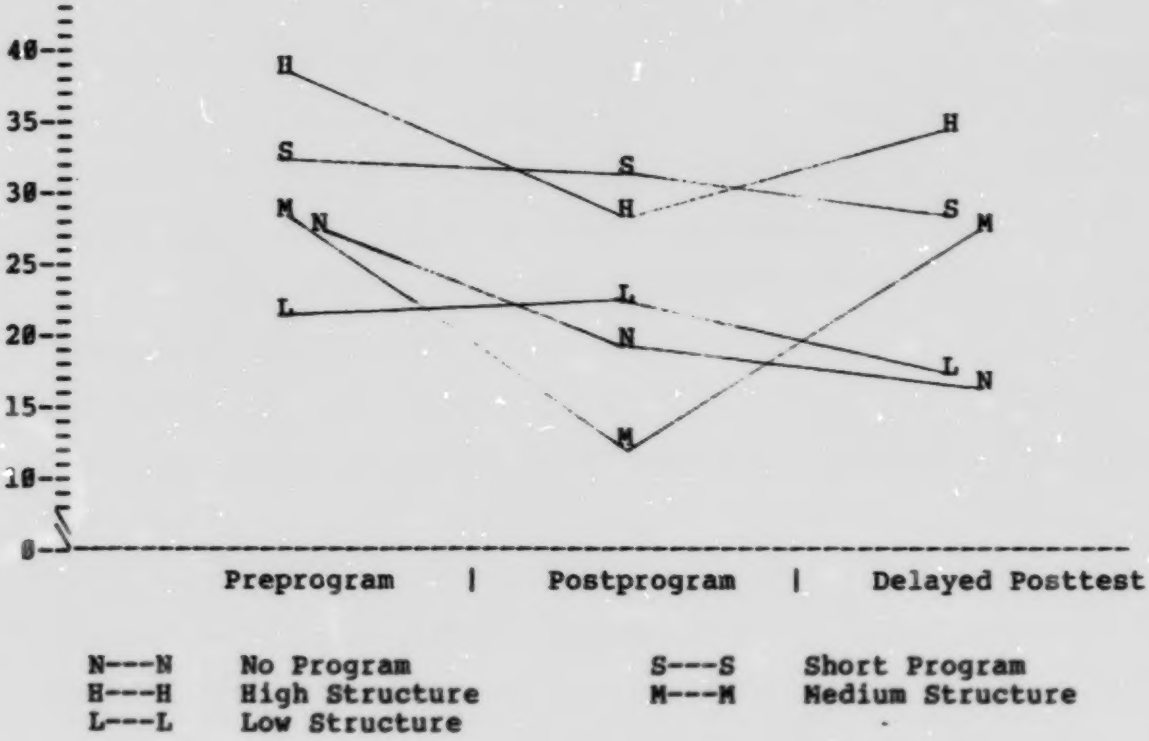


Table 64 gives the results of the two-way analysis of variance for inappropriate repetitive behaviors. Significant differences were apparent in program main effects, F(4, 181) = 3.1, p < .05 and in time main effects, F(2, 362) = 5.1, p < .01. No significant interaction effect was evident.

Table 64

Inappropriate Repetitive Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	14116.2	4	3529.1	3.1	0.018
S_w Groups	207788.6	181	1148.0		
Time	3924.5	2	1962.2	5.1	0.007
Interaction	5600.7	8	700.1	1.8	0.073
T x S_w	139516.6	362	385.4		

Inappropriate interpersonal behaviors. Table 65 displays the group means and Table 66 the results of the analysis of variance for these behaviors. The frequency of occurrence of these behaviors was very low for all groups in all periods of testing. No significant differences were found in changes over time among groups during either the summer or fall-winter periods.

Table 65

Interpersonal Inappropriate Behaviors

Pretest, Posttest, Delayed Posttest Scores

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram Mean	Preprogram SD	Postprogram Mean	Postprogram SD	Delayed Post Mean	Delayed Post SD
No Program	54	.667	1.289	.741	1.306	.371	.831
Short Program	44	1.159	3.691	2.864	13.468	.591	1.675
High Structure	21	.905	1.671	.762	1.947	2.191	3.945
Medium Structure	32	.750	1.270	.281	.851	1.094	1.594
Low Structure	35	1.314	2.698	1.200	2.026	.686	1.779

Table 66

Inappropriate Interpersonal Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	62.5	4	15.6	0.6	0.7000
S_W Groups	5147.7	181	28.4		
Time	4.4	2	2.2	0.2	0.843
Interaction	152.6	8	19.1	1.5	0.162
T x S_W	4661.6	362	12.9		

Total inappropriate behaviors. Table 67 displays the group means and standard deviations for total inappropriate behaviors. Figure 5 graphically portrays the changes in mean scores for all groups. An inspection of pretest and posttest mean scores reveals that total inappropriate behaviors decreased in about the same proportion in the Medium and High Structure groups. Regression to more inappropriate behaviors for each of the other groups was similarly at a parallel rate. However, in the delayed posttest period, this trend reversed itself. High and Medium Structure programs regressed to more inappropriate behaviors in a similar fashion, while No, Short and Low Structure groups decreased their inappropriate behaviors in a similar manner.

The results of the two-way analysis of variance for total inappropriate behaviors and the subsequent Scheffe's multiple comparisons are found in Table 68. Significant main effects of program were evident for these behaviors, $F(4, 181) = 4.06$, $p < .01$; as were significant interaction effects, $F(8, 362) = 15.98$, $p < .01$. Significant differences were found between combined High and Medium Structure groups and combined No, Short and Low Structure groups from pre- to posttesting (June to September), $F(8, 362) = 58.06$, $p < .01$; as well as from posttesting to delayed posttesting (September to March), $F(8, 362) = 98.41$, $p < .01$. In addition, change scores between the two time periods were significantly different, $F(8, 362) = 102.62$, $p < .01$. No other significant differences were found among groups.

Table 67

Total Inappropriate Behaviors

Pretest, Posttest, Delayed Posttest Scores

		Inappropriate Behaviors per 15 min.					
Program Types	N	Preprogram Mean	Preprogram SD	Postprogram Mean	Postprogram SD	Delayed Post Mean	Delayed Post SD
No Program	54	63.72	36.73	78.93	43.65	66.00	36.99
Short Program	44	94.36	36.54	111.77	54.18	91.02	34.52
High Structure	21	103.43	57.44	73.95	46.11	105.14	38.73
Medium Structure	32	80.97	30.57	52.00	30.12	103.34	41.09
Low Structure	35	76.49	24.74	93.23	54.09	72.17	33.18

Figure 5

Total Inappropriate Behaviors

Pretest, Posttest, Delayed Posttest Means

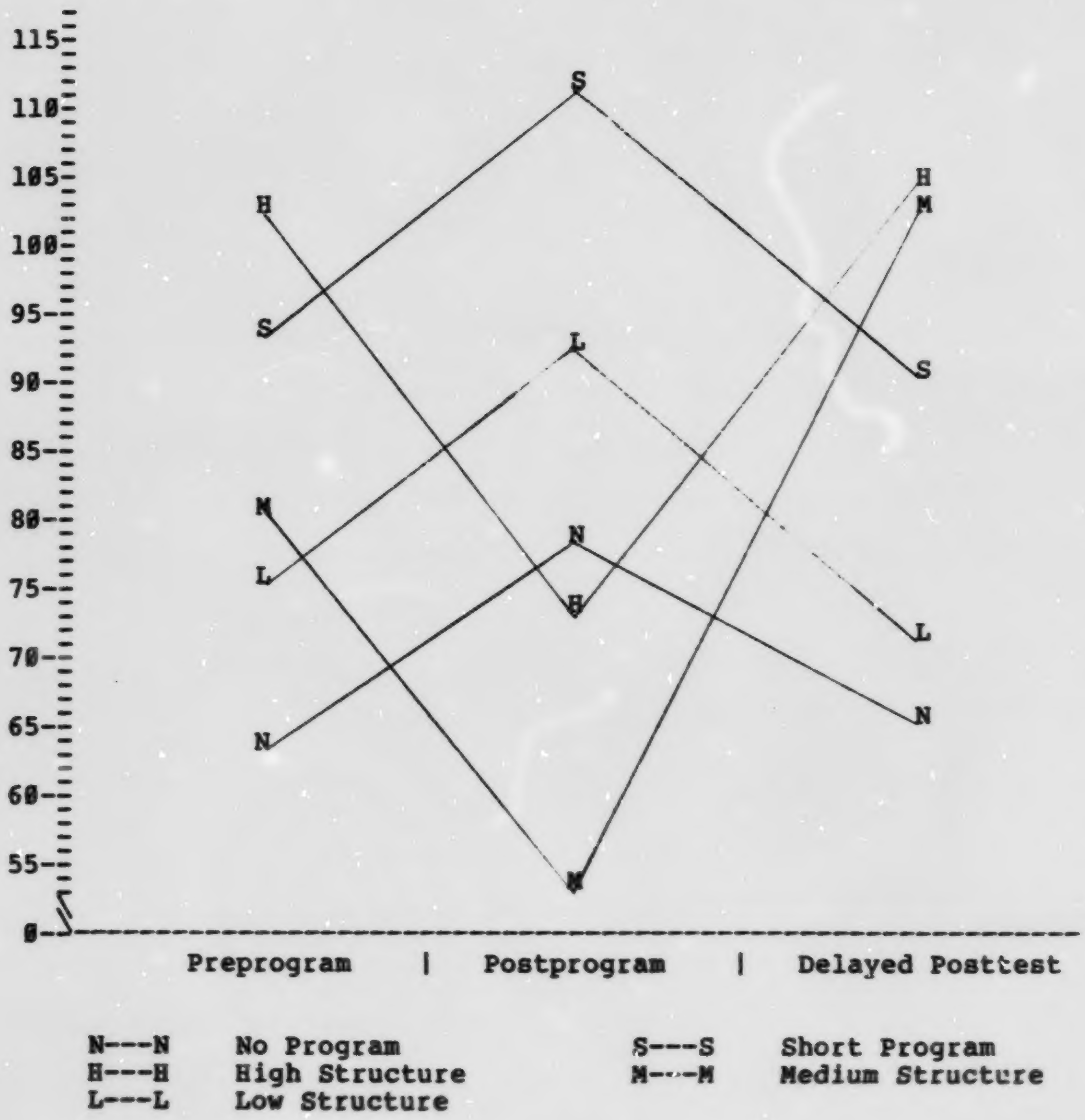


Table 68

Total Inappropriate Behaviors

Two-way Analysis of Variance:

Repeated Measures on One Independent Variable

Program, Time and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Program	58178.29	4	14544.57	4.06	0.004
S_w Groups	648351.00	181	3582.05		
Time	2702.84	2	1351.42	2.06	0.129
Interaction	83735.44	8	10466.93	15.98	0.001
$T \times S_w$	237163.00	362	655.15		

Interaction Effects: Pairwise Comparisons

	Obtained F Values		
Program Types	T_1-T_2[a]	T_2-T_3[b]	C_1-C_2[c]
Medium + High vs. No + Short + Low	58.06**	98.41**	102.62**
Medium vs. High		3.92	

[a] refers to the difference between mean scores on the first and second times of data collection.

[b] refers to the difference in mean scores between the second and third times data was collected.

[c] refers to the difference in change scores between the two time periods.

* $p<.05$ (Critical F = 15.68 Using Scheffe's multiple comparison test)

** $p<.01$ (Critical F = 20.43 Using Scheffe's multiple comparison test)

The results of the statistical analysis of the data on inappropriate behaviors revealed that some summer programs had significant positive effects on behaviors as measured by the Inappropriate Behaviors Observation Checklist immediately following summer programs. This was the case for High and Medium Structure programs, which had similar positive effects on behaviors. Not only did these types of programs prevent regression to increased inappropriate behaviors, they produced a decrease in inappropriate behaviors during the summer period.

However, the opposite effect is evident in the delayed posttesting where there was regression to scores similar to pretest scores on inappropriate behaviors. High Structure program groups regressed during the fall-winter period to preprogram levels while Medium Structure program groups regressed to further levels higher than their June scores.

Short and Low Structure programs showed regression to more inappropriate behaviors following summer programs, as did the children who were in no summer programs. However, delayed posttesting revealed there were improvements in behaviors in these groups during the first half of the school year. As a result, the delayed posttest scores (February-March) were similar to preprogram scores (June) for Short and Low Structure programs as well as for the No Program group.

Immediate Impact on Skills

The second major area of concern was the effects of summer programming on the skills of severely handicapped students. The following question guided this portion of the study:

Do summer programs for severely handicapped students prevent regression or produce an increase in skills?

To answer this question, the Teacher Interview Skills Checklist was developed and utilized upon resumption of regular schooling in September. It covered the general areas pertinent to the education of skills for these children. Each area was recorded in one of the following categories: much or some gain, retention, much or some loss. The data obtained with this instrument consisted of teacher perceptions of children's change in functioning for each skill area after summer programs compared with the end of the previous school year.

Significance of differences between groups was tested with chi square for loss, retention and gain. Skill loss during the summer in all areas and for all program types was minimal. Significant differences, in favor of High Structure programs, alone or combined with Medium Structure programs, were evident on six of the ten subtests. These included: gross and fine motor skills, dressing skills, cognitive skills, receptive communication skills, social interaction and classroom behavior skills.

Gross motor skills. Table 69 gives the results of chi square analysis as well as numbers and percentages of children who lost, retained or gained gross motor skills during Phase 1 (June to September). Significant differences were evident ($p<.001$) among groups. When retention was compared to gain between groups, there were significant differences ($p<.001$) between High Structure and combined No, Short, Medium and Low Structure programs; as well as significant differences ($p<.01$) between High Structure and combined No, Short and Low Structure programs and significant differences ($p<.001$) between High and Medium Structure programs. In addition, High and Medium Structure programs differed significantly ($p<.001$) on retention versus gain. A significantly greater proportion of children retained gross motor skills in the Medium than in the High Structure programs while the reverse was true for the proportion of children who gained in these skills.

An inspection of the table reveals that in all groups the largest proportion of children either retained or gained in skills. Groups varied from 4 to 24% of children who regressed with the largest percentage of children losing gross motor skills from Short programs. High and Medium Structure groups had the smallest proportion of children regressing. In the High Structure programs, all but one of the children either retained or gained with over one-half of the children gaining gross motor skills during the summer.

Table 69

Gross Motor Skill Loss, Retention, Gain: Phase 1 (Summer)

Program Types		N	Loss N	Loss %	Retention N	Retention %	Gain N	Gain %
No Program	(1)	45	7	16	33	73	5	11
Short Program	(2)	37	9	24	23	62	5	14
High Structure	(3)	14	1	7	5	36	8	57
Medium Structure	(4)	27	1	4	25	92	1	4
Low Structure	(5)	32	7	22	20	62	5	16

$\chi^2 = 29.28$; df = 8; p = .0003

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 vs. 1 + 2 + 4 + 5	20.42	2	.0000
3 vs. 1 + 2 + 4 + 5*	17.81	1	.0000
4 vs. 1 + 2 + 5	7.25	2	.0267
4 vs. 1 + 2 + 5**	4.19	1	.0405
4 vs. 1 + 2 + 5*	2.74	1	.0981
3 vs. 4	16.29	2	.0003
3 vs 4*	16.25	1	.0000
3 vs. 1 + 2 + 5*	9.03	1	.0027
3 vs. 1 + 2 + 5**	2.12	1	.1458

* retain vs. gain
** loss vs. retain plus gain

Fine motor skills. Table 70 displays the data on loss, retention and gain of fine motor skills during the summer, as well as chi square analysis results. Differences between program groups were statistically significant (p<.001). Posthoc tests revealed that High Structure groups differed significantly (p<.001) from combined Medium Structure, Low Structure, No and Short programs on gain compared to retention.

Further analysis indicated that there were no statistically significant differences between Medium Structure, Low Structure, No and Short Program groups.

All groups had a much higher proportion of children who retained or gained skills than those who lost fine motor skills. The percentages of children who lost ranged from 0 loss for the High Structure group to 16% for the Low Structure Program group. Nearly one-half of the children in High Structure programs gained while few children in other programs gained in fine motor skills.

Table 70

Fine Motor Skill Loss, Retention, Gain: Phase 1 (Summer)

			Numbers & Percentages of Children					
Program Types		N	Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	44	5	11	37	84	2	5
Short Program	(2)	37	4	11	32	86	1	3
High Structure	(3)	15	0	0	8	53	7	47
Medium Structure	(4)	25	1	4	23	92	1	4
Low Structure	(5)	32	5	16	24	75	3	9

χ^2 = 32.204; df = 8; p = .0001

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 vs. 1 + 2 + 4 + 5	28.79	2	.0000
1 vs. 2 vs. 4 vs. 5	3.95	6	.6840
3 vs. 1 + 2 + 4 + 5*	24.625	1	.0000
3 vs. 1 + 2 + 4 + 5**	1.81	1	.1787

* retain vs. gain
** loss vs. retain plus gain

Eating self-help skills. Information on loss, retention and gain for eating skills over the summer is given in Table 71. When program types were compared on this skill using chi square analysis, there were no significant differences among them. However, it was evident that in all programs a much smaller percentage of children lost skills than retained or gained skills in eating. The losses ranged from 4% to 15%. The proportion of children gaining eating skills was greatest in High Structure Programs.

Table 71

Eating Skill Loss, Retention, Gain: Phase 1 (Summer)

			Numbers & Percentages of Children					
Program Types		N	Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	45	3	7	38	84	4	9
Short Program	(2)	41	6	15	32	78	3	7
High Structure	(3)	15	2	13	9	60	4	27
Medium Structure	(4)	27	1	4	24	89	2	7
Low Structure	(5)	36	2	6	30	83	4	11

$\chi^2 = 9.199$; df = 8; p = .3258

Toileting self-help skills. Table 72 gives the information on loss, retention and gain during the summer. Chi square testing of differences among program groups in toileting skills indicated that no significant differences existed. However, in all programs, few children lost skills in this area. No children regressed in the Medium Structure group and the highest proportion of children who lost toileting skills

(14%) was from the Short Program group. The proportion of children gaining toileting skills was greatest in the High Structure group.

Table 72

Toileting Skill Loss, Retention, Gain: Phase 1 (Summer)

			Numbers & Percentages of Children					
Program Types		N	Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	43	2	5	39	91	2	5
Short Program	(2)	35	5	14	29	83	1	3
High Structure	(3)	13	1	8	10	77	2	15
Medium Structure	(4)	23	0	0	22	96	1	4
Low Structure	(5)	32	3	10	27	85	2	6

Note. Rounded percentages may total more than 100%.

$\chi^2 = 7.89$; df = 8; p = .4443

Dressing self-help skills. Information on summer loss, retention and gain in dressing skills is located in Table 73. Chi square testing revealed statistically significant differences among the various groups in this skill area (p<.001). A significantly higher proportion of the High Structure Program groups gained skills in dressing (p<.001) than the other programs combined which did not differ significantly from one another. High and Medium Structure groups differed significantly (p<.01) from one another on retention versus gain, with a higher proportion of the former gaining, and the latter retaining dressing skills.

Although losses were small for all groups, no children lost skills in the High and Medium Structure programs, while 13% to 18% of the children in the No, Short and Low Structure programs lost skills in dressing. Nearly one-third of the children in the High Structure programs made gains in dressing skills, while none of the children in the Medium and Low Structure Program groups gained dressing skills.

Table 73

Dressing Skill Loss, Retention, Gain: Phase 1 (Summer)

		Numbers & Percentages of Children					
Program Types	N	Loss		Retention		Gain	
		N	%	N	%	N	%
No Program (1)	42	6	14	35	83	1	3
Short Program (2)	34	6	18	26	76	2	6
High Structure (3)	13	0	0	9	69	4	31
Medium Structure (4)	23	0	0	23	100	0	0
Low Structure (5)	30	4	13	26	87	0	0

$\chi^2 = 27.87$; df = 8; p = .0005

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 vs. 4*	7.96	1	.0048
3 vs. 1 + 2 + 4 + 5	21.36	2	.0000
1 vs. 2 vs. 4 vs. 5	7.75	6	.2570
3 vs. 1 + 2 + 4 + 5*	17.56	1	.0000
3 vs. 1 + 2 + 4 + 5**	1.82	1	.1777

* retain vs. gain
** retain vs. loss

Cognitive skills. The data for loss, retention and gain in cognitive skills over the summer can be found in Table

74. Significant differences ($p<.05$) were evident from chi square analysis. High and Medium Structure groups combined were significantly better ($p<.01$) than the Low Structure, No Program and Short Program groups combined. There were no significant differences between Medium and High Structure programs nor among the other three groups.

When children in program groups were compared in the area of cognitive skills, losses ranged from none in the High and Medium Structure groups to 10% of children in the No Program group.

Table 74

Cognitive Skill Loss, Retention, Gain: Phase 1 (Summer)

			Numbers & Percentages of Children					
Program Types		N	Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	43	10	23	29	68	4	9
Short Program	(2)	37	5	14	30	81	2	5
High Structure	(3)	15	0	0	11	73	4	27
Medium Structure	(4)	26	0	0	23	88	3	12
Low Structure	(5)	34	3	9	29	85	2	6

$\chi^2 = 17.177$; df = 8; p = .0283

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 + 4 vs. 1 + 2 + 5	9.75	2	.0076
1 vs. 2 vs. 5	4.10	4	.3933
3 vs. 4*	1.54	1	.2150

*retain vs. gain

Receptive communication skills. Table 75 displays the information on loss, retention and gain from June to September. Chi square analysis revealed a significant overall difference ($p<.001$) in receptive communication skill change among groups. High Structure programs were significantly superior ($p<.001$) to all the other groups combined, as well as being significantly different ($p<.01$) from No, Short and Low Structure Program groups in the proportion of children who gained skills compared to those who retained skills.

There was no receptive communication skill loss in children from High and Medium Structure programs. In the other two groups: No, Short and Low Structure programs, 12%, 10% and 13%, respectively, of the children showed losses. No children gained receptive commincation skills in Medium Structure and Short programs.

Table 75

Receptive Communication Loss, Retention, Gain: Phase 1

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	43	5	12	35	81	3	7
Short Program	(2)	40	4	10	36	90	0	0
High Structure	(3)	15	0	0	10	67	5	33
Medium Structure	(4)	27	0	0	27	100	0	0
Low Structure	(5)	35	5	14	25	72	5	14

$\chi^2 = 26.492$; df = 8; p = .0009

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 vs. 1 + 2 + 4 + 5	14.93	2	.0006
1 vs. 2 vs. 4 vs. 5	13.96	6	.0301
4 vs. 1 + 2 + 5	5.93	2	.0510
3 vs. 1 + 2 + 5*	8.86	1	.0029
3 vs. 1 + 2 + 5**	1.99	1	.1584

* retain vs. gain
** loss vs. gain plus retain

Expressive communication skills. Results of chi square analysis and information on summer loss, retention and gain of expressive communication skills are given in Table 76. There were no significant differences among groups on these skills, although 19% of the children in the No Program group and 17% of those in the Low Structure group experienced skill loss. Nearly one-third of the children in High Structure programs gained skills in expressive communication.

Table 76

Expressive Communication Loss, Retention, Gain: Phase 1

Program Type		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	42	8	19	25	60	9	21
Short Program	(2)	37	3	8	31	84	3	8
High Structure	(3)	14	1	7	9	64	4	29
Medium Structure	(4)	27	1	4	23	85	3	11
Low Structure	(5)	35	6	17	25	72	4	12

Note. Rounded percentages may total more than 100%.

$\chi^2 = 11.7$; df = 8; p = .1651

Social interaction skills. Table 77 displays information for social interaction skill change for all groups. Chi square analysis revealed significant postprogram differences (p<.001) among the groups in social interaction skill change. High Structure programs were significantly better (p<.001) than the other four combined. Further analysis indicated that the High Structure Program was significantly better (p<.001) than the others combined on gain compared to retention. There were no significant differences among No, Short, Medium and Low Structure groups.

There was a variation of 4% of the students in Medium Structure groups to 16% of the students with No Program losing skills in this area. Two-thirds of the students in High Structure programs gained social interaction skills during summer programs. In all groups retention and gain were much greater than loss.

Table 77

Social Interaction Skill Loss, Retention, Gain: Phase 1

Program Type		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	43	7	16	32	74	4	9
Short Program	(2)	38	4	11	32	84	2	5
High Structure	(3)	15	1	7	4	27	10	67
Medium Structure	(4)	27	1	4	20	74	6	22
Low Structure	(5)	32	4	12	22	69	6	19

Note. Rounded percentages may total more than 100%.

$\chi^2 = 33.11$; df = 8; p = .0001

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 vs. 1 + 2 + 4 + 5	26.59	2	.0000
1 vs. 2 vs. 4 vs. 5	7.77	6	.2552
3 vs. 1 + 2 + 4 + 5*	25.19	1	.0000

* retain vs. gain

Classroom behavior skills. Table 78 gives the post-summer loss, retention and gain in classroom behavior skills. With chi square analysis, there were significant differences ($p<.01$) among the groups. High and Medium Structure groups combined were significantly better ($p<.05$) than the other three combined. When comparisons were made with loss versus retention plus gain for these same groupings, High and Medium Structure programs were significantly better ($p<.05$) than the other three; but when the comparisons were of retention versus gain for the same groupings, there were no significant differences.

None of the students in the High Structure programs but 22% in No Program, 29% in Short programs and 26% in Low Structure program lost skills in this area while 11% of Medium Structure program students lost.

Table 78

Classroom Behavior Skill Loss, Retention, Gain: Phase 1

Program Type		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	45	10	22	28	62	7	16
Short Program	(2)	42	12	29	29	69	1	2
High Structure	(3)	15	0	0	8	53	7	47
Medium Structure	(4)	27	3	11	17	63	7	26
Low Structure	(5)	35	9	26	19	54	7	20

$\chi^2 = 20.83$; df = 8; p = .0076

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
3 vs. 4	3.06	2	.2160
3 + 4 vs. 1 + 2 + 5	9.01	2	.0110
3 + 4 vs. 1 + 2 + 5*	5.76	1	.0164
3 + 4 vs. 1 + 2 + 5**	2.96	1	.0856
1 vs. 2 vs. 5	6.45	4	.1679

* loss vs. retention plus gain
** retention vs. gain

Overall skill loss, retention and gain. For Phase 1, the June to September period, Table 79 displays average loss, retention and gain percentages for all skills combined, as well as results of chi square analysis. No significant overall differences were evident among groups.

Skill loss in all areas appeared to be minimal compared to skills retained and gained. In general, many more students retained their skills or gained new skills than they lost, and this was true for all programs types. Fewer students, however, lost skills if they were from the High and Medium Structure groups. In addition, a greater proportion of students gained skills if they were in the High Structure program.

When loss, retention and gain were averaged for all the skills in each program type, Medium and High Structure programs had about the same proportion of children losing skills as well as the same proportion of children with combined retained and gained skills. When skill gain alone was judged, High Structure programs had a higher proportion of children gaining skills than did Medium Structure programs. However, the latter programs surpass all other groups in the proportion of children retaining skills. The percentages of children who lost skills in the Low Structure, Short and No Program groups were similar.

The data on which the analysis of skill loss, retention and gain was based were obtained from judgments of classroom teachers. Variation in teacher judgment from group to group was likely present, thus making comparisons more difficult. However, teachers who know the children well provided data on students from all programs, and therefore, reliability of data thus provided was considered adequate.

Table 79

Average Percentage Loss, Retention, Gain: Phase 1 (Summer)

		Numbers & Percentages of Children					
Program Type	N	Loss		Retention		Gain	
		N	%	N	%	N	%
No Program	43.5	6.3	14.5	33.1	76.1	4.1	9.4
Short Program	37.8	5.8	15.3	30.0	79.4	3.0	5.3
High Structure	14.4	0.6	4.2	8.3	57.6	5.5	38.2
Medium Structure	25.9	0.8	3.1	22.7	87.6	2.4	9.3
Low Structure	33.3	4.8	14.4	24.7	74.2	3.8	11.4

χ^2 = 15.05; df = 8; p = .0582.

Follow-up Study: Impact on Skills

The follow-up study was carried out to determine if differences evident at the end of summer programming were retained over a longer period of time. The question which guided the analysis of impact on behaviors for the midyear follow-up was:

Do groups of severely handicapped children who following summer programs had significantly different skill changes retain these differences during the subsequent school year?

The data consisted of teacher perceptions of children's level of change from September to March, that is during Phase 2 of the study. The same checklist was utilized as previously. Analysis of data included only those children for whom fall data had been available.

Significance of differences between mean changes of groups was tested with chi square for loss, retention and gain. No significant differences were found among groups on the skill areas except for toileting skills. Therefore, the significant differences observed at the end of summer programs favoring Medium, and especially High Structure programs, were still evident midway in the school year.

Gross motor skills. Table 80 displays the results of chi square analysis as well as numbers and percentages of children who lost, retained or gained gross motor skills during this period. Chi square analysis revealed no significant differences between groups. However, it appears evident that all groups had a large proportion of children who retained and gained gross motor skills. Very few children in any of the programs regressed in this area. The largest proportion regressing was in Low Structure programs. Medium Structure programs had the smallest proportion of children regressing and the smallest proportion gaining. In all other programs, over one-half of the children gained in gross motor skills during the period under consideration.

Table 80

Gross Motor Skill Loss, Retention, Gain: Phase 2 (Winter)

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	39	2	5	17	44	20	51
Short Program	(2)	39	2	5	15	39	22	56
High Structure	(3)	14	1	7	6	43	7	50
Medium Structure	(4)	25	1	4	13	52	11	44
Low Structure	(5)	29	3	10	11	38	15	52

$\chi^2 = 2.468$; df = 8; p = .9632

Fine motor skills. Table 81 presents the chi square analysis results which revealed no significant differences among group changes during the school year. However, all groups had a much higher proportion of children who retained or gained skills than those who lost fine motor skills. More than one-half of the children in all programs gained in fine motor skills with the highest proportion (more than three-quarters) of the children gaining in High Structure programs. The largest percentage of loss (not significant) was in the No Program group while no children in the High Structure group lost skills.

Table 81

Fine Motor Skill Loss, Retention, Gain: Phase 2 (Winter)

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	38	4	10	12	32	22	58
Short Program	(2)	38	2	5	12	32	24	63
High Structure	(3)	14	0	0	3	21	11	79
Medium Structure	(4)	26	1	4	12	46	13	50
Low Structure	(5)	26	1	4	10	38	15	58

$\chi^2 = 6.085$; df = 8; p= .6377

Eating self-help skills. Table 82 displays information on skill loss, retention and gain during Phase 2 from September to March for eating skills. When program types were compared on changes in this skill using chi square analysis, there were no significant differences among them. During this period, almost no children lost skills in eating while from one-third to two-thirds of all children gained skills and a similar proportion retained skills.

Table 82

Eating Skill Loss, Retention, Gain: Phase 2 (Winter)

Program Types		N	Loss N	Loss %	Retention N	Retention %	Gain N	Gain %
No Program	(1)	38	1	3	25	66	12	31
Short Program	(2)	40	0	0	17	42	23	58
High Structure	(3)	13	0	0	6	46	7	54
Medium Structure	(4)	22	1	5	8	36	13	59
Low Structure	(5)	27	0	0	14	52	13	48

Numbers & Percentages of Children

$\chi^2 = 9.736$; df = 8; p = .284

Toileting self-help skills. Table 83 displays the information relative to toileting skill changes for the first half of the school year. Chi square testing of differences among program groups indicated that significant differences ($p<.05$) existed among the programs. Further analysis revealed that Short programs were significantly better ($<.01$) than all the others in gain compared to retention.

In all programs, the greatest proportion of children retained skills in this area. No children regressed in the Short and High Structure groups and the highest proportion of children who lost toileting skills (18%) was from the Low Structure group. Gains were greatest in the Short Program group (almost two-thirds of the children) while in the Low Structure group 14% of the children gained skills.

Table 83

Toileting Skill Loss, Retention, Gain: Phase 2 (Winter)

Program Types		N	Loss N	Loss %	Retention N	Retention %	Gain N	Gain %
No Program	(1)	36	4	11	20	56	12	33
Short Program	(2)	33	0	0	13	39	20	61
High Structure	(3)	11	0	0	7	64	4	36
Medium Structure	(4)	20	1	5	11	55	8	40
Low Structure	(5)	22	4	18	15	68	3	14

Numbers & Percentages of Children

$\chi^2 = 17.879$ df = 8; p = .0222

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
2 vs. 1 + 3 + 4 + 5	10.87	2	.0044
1 vs. 3 vs. 4 vs. 5	6.43	6	.3768
2 vs. 1 + 3 + 4 + 5*	6.94	1	.0084
2 vs. 1 + 3 + 4 + 5**	3.60	1	.0577
4 vs. 1 + 3 + 5**	.78	1	.3778

* retain vs. gain.

** loss vs. retain plus gain.

Dressing self-help skills. Information on loss, retention and gain for this period is located in Table 84. Utilizing chi square testing, no statisically significant differences were found among the various groups in this skill area. There were no losses for the Short, High and Medium Structure programs in dressing skills. In all programs, more than one-half of the children gained skills.

Table 84

Dressing Skill Loss, Retention, Gain: Phase 2 (Winter)

Program Types		N	Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	36	2	5	15	42	19	53
Short Program	(2)	34	0	0	16	47	18	53
High Structure	(3)	14	0	0	5	36	9	64
Medium Structure	(4)	19	0	0	9	47	10	53
Low Structure	(5)	22	1	4	7	32	14	64

Column group heading: Numbers & Percentages of Children

$\chi^2 = 5.104$; df = 8; p = .7464

Cognitive skills. Fall-winter period loss, retention and gain information is in Table 85. No significant differences were found among groups in the chi square analysis. However, when children in program groups were compared in the area of cognitive skills, more than one-half of the children in all groups gained skills, with the greatest gains (80%) occurring in the High and Medium Structure groups.

Table 85

Cognitive Skill Loss, Retention Gain: Phase 2 (Winter)

Program Types		N	Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	36	2	5	6	17	28	78
Short Program	(2)	32	1	3	13	41	18	56
High Structure	(3)	10	1	10	1	10	8	80
Medium Structure	(4)	25	2	8	3	12	20	80
Low Structure	(5)	25	0	0	9	36	16	64

Column group heading: Numbers & Percentages of Children

$\chi^2 = 12.302$; df = 8; p = .1381

Receptive communication skills. Table 86 displays information at midyear for these skills. Chi square analysis revealed no significant overall difference in receptive communication skill change among groups. There was no receptive communication skill loss in children from three of the groups: Short Program, High and Medium Structure programs. In the other two groups: No Program and Low Structure programs, a small number of the children showed losses. Medium Structure programs gained the most and Low Structure programs gained the least in these skills although differences were not significant.

Table 86

Receptive Communication Loss, Retention, Gain: Phase 2

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	39	2	5	13	33	24	62
Short Program	(2)	39	0	0	17	44	22	56
High Structure	(3)	14	0	0	6	43	8	57
Medium Structure	(4)	25	0	0	7	28	18	72
Low Structure	(5)	29	1	3	17	59	11	38

$\chi^2 = 5.104$; df = 8; p = .7464

Expressive communication skills. Information on loss, retention and gain between fall and spring and chi square analysis are given in Table 87. There were no significant differences among groups on changes in expressive communication skills, although the largest proportion of children gaining skills was in the Medium Structure programs.

Table 87

Expressive Communication Loss, Retention, Gain: Phase 2

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	37	3	8	11	30	23	62
Short Program	(2)	36	1	3	17	47	18	50
High Structure	(3)	13	0	0	3	23	10	77
Medium Structure	(4)	25	1	4	3	12	21	84
Low Structure	(5)	26	1	4	11	42	14	54

$\chi^2 = 12.225$; df = 8; p = .1414

Social interaction skills. About two-thirds of the students in the various programs but less than one-half of the students who did not attend summer programs had gained social interaction skills by midyear. However, chi square analysis revealed no significant differences among the groups in skill change in this area. Table 88 gives the data for all groups.

Table 88

Social Interaction Skill Loss, Retention, Gain: Phase 2

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	39	2	5	19	49	18	46
Short Program	(2)	40	1	3	14	35	25	63
High Structure	(3)	14	1	7	4	29	9	64
Medium Structure	(4)	25	0	0	8	32	17	68
Low Structure	(5)	26	0	0	10	38	16	62

$\chi^2 = 6.603$; df = 8; p = .5800

Classroom behavior skills. Table 89 displays the loss, retention and gain in these skills during the first half of the school year and the results of chi square analysis. No significant differences were found. The highest proportions of children gaining skills in this area as perceived by teachers were in the High (87%) and Medium (79%) Structure programs, although in all programs more than one-half of the children gained skills.

Table 89

Classroom Behavior Skill Loss, Retention, Gain: Phase 2

Program Types		N	Numbers & Percentages of Children					
			Loss		Retention		Gain	
			N	%	N	%	N	%
No Program	(1)	40	1	2.5	19	47.5	20	50
Short Program	(2)	39	2	5	12	31	25	64
High Structure	(3)	14	1	7	2	14	11	79
Medium Structure	(4)	23	0	0	3	13	20	87
Low Structure	(5)	26	0	0	12	46	14	54

$\chi^2 = 11.30$; df = 8; p = .1852

Overall skill loss, retention and gain. Table 90 displays average loss, retention and gain percentages for all skills by program types during the fall-spring period, as well as chi square analysis results. More students in all programs retained or gained skills than they lost. A greater proportion of students in High and Medium Structure programs gained skills while a greater percentage of No Program children lost skills. However, no significant differences were evident when all skills were averaged by group. The only significant difference found in the subtest analyses were for toileting skills. Therefore, the relatively greater improvements in skills over summer were not reversed for Medium and High Structure programs, with the exception of toileting skills.

Since the data reported in the sections on skills came from teacher perceptions, inconsistencies among raters probably exist. However, the same teachers rated the progress of the same groups of students for each observation period. Accordingly, follow-up data would likely reflect the same biases as the ratings recorded at the end of the summer. As a consequence, comparisons between progress over the summer and during the fall-winter period seem warranted.

Table 90

Average Percentage Skill Loss, Retention, Gain: Phase 2

		Numbers & Percentages of Children					
Program Type	N	Loss		Retention		Gain	
		N	%	N	%	N	%
No Program	37.8	2.3	6.0	15.8	41.7	19.8	52.4
Short Program	37.0	.88	2.4	14.7	39.8	21.4	57.8
High Structure	13.1	.4	3.1	4.3	32.9	8.4	64.0
Medium Structure	23.5	.7	3.0	37.8	33.3	14.96	63.7
Low Structure	25.8	1.1	4.3	11.58	44.9	13.1	50.8

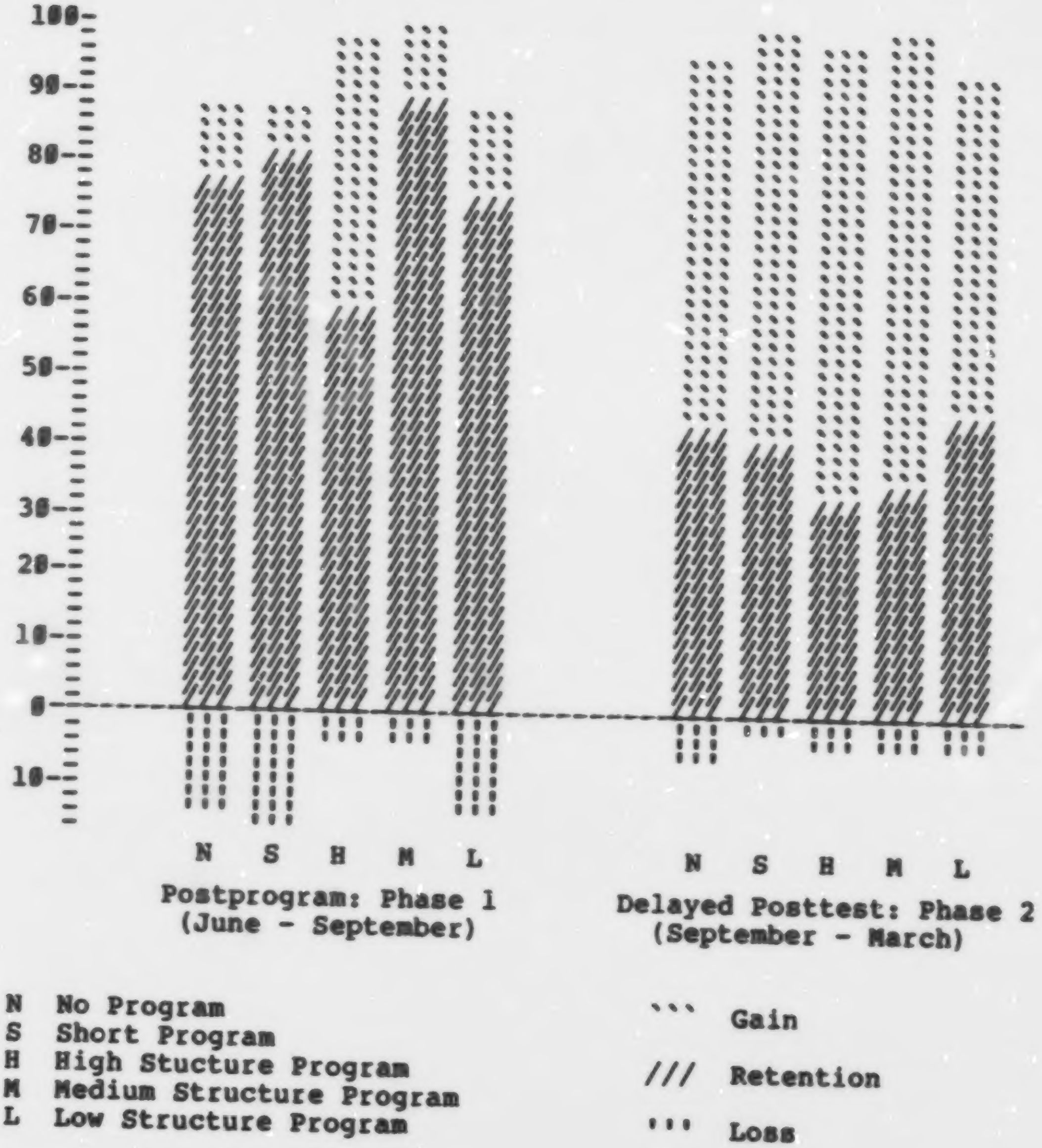
$\chi^2 = 2.177$; df = 8; p = .975

Figure 6 depicts graphically the percentage changes in overall skills for all groups. The differences between groups over the summer period are evidently greater than during the first part of the subsequent school year. Groups, retained the skill benefits of summer programs over time.

Figure 6

Overall Skill Loss, Retention, Gain: Phase 1 and Phase 2

Percentages of Children



Process-Product Analysis

To ascertain if certain emphases in summer program interactions were correlated with changes in post-program behaviors of children, the activities of staff and children during summer programs were correlated with changes in children's behaviors. The Pearson product-moment correlation coefficient was utilized for this purpose. Table 91 displays the results of the data analysis showing the relationship between children's change in inappropriate behaviors and the summer activities of staff; as well as the relationship between children's summer activities and their inappropriate behavior change over the summer.

Observed staff interactions had been recorded according to whether they were primarily setting-oriented (preparation of food or materials, feeding or toileting of children or commmunicating with other adults) or if staff were engaged in activities which related more directly to regular classrooms. This latter category was divided into direct instruction, positive reinforcement and non-instructional (activities with children, such as playing, listening, talking, etc. but without direct teaching of the children). The occurrences of these activities were then correlated with change in children's inappropriate behaviors over the summer.

Children's activities had also been observed during the summer for various types of positive and negative inner-directed (involved with self) and outer-directed (involved with others) interactions. For the purposes of this analysis, all positively-directed activities were grouped together, whether they were directed toward oneself or towards others; the same thing was done with negatively-directed behaviors. These were then correlated with the changes in inappropriate behaviors during the summer to see if what children did during summer programs had a direct relationship to changes in inappropriate behaviors.

There were significant negative correlations between increase in total inappropriate behaviors and staff use of direct instruction ($p<.001$), as well as of positive reinforcement ($<.001$). In other words, as more time was spent in these tasks, total inappropriate behaviors decreased. Direct instruction time also correlated negatively at a significant level ($p<.01$) with increase in personal inappropriate behaviors. Therefore, these behaviors decreased as the time of direct instruction increased.

However, there were significant positive correlations for time spent in non-instructional tasks with: total inappropriate behavior increase ($p<.001$), personal and repetitious inappropriate behavior increase ($p<.01$), and passive inappropriate behavior increase ($p<.05$). This indicates that as time spent in such tasks increased, inappropriate behaviors also increased.

There were significant positive correlations for children's negatively directed summer activities with: total inappropriate behavior increase ($p<.01$), as well as the increase in personal inappropriate behaviors ($p<.05$). Conversely, positively-directed summer activities correlated negatively with inappropriate behavior increase. Therefore, as children's positively-directed summer activities increased, their inappropriate behaviors decreased in the postsummer program testing period.

It appears that the types of summer interactions for both staff and children were related to the changes in children's inappropriate behaviors.

Table 91

Relationship of Activities of Summer Staff and Children with Changes in Children's Immediate Postprogram Inappropriate Behaviors

Staff Activity	Children's Inappropriate Behaviors			
	Passive	Personal	Repetitious	Total
Setting-oriented	-.13	-.06	-.09	-.11
Non-instructional	.21*	.31**	.24**	.50***
Direct instruction	-.05	-.24**	-.17*	-.34***
Positive reinforcement	-.18*	-.21*	-.13	-.37***
Children's Activity				
Negative activities	.08	.23*	.09	.27**
Positive activities	-.08	-.23*	-.09	-.27**

* p<.05
** p<.01
*** p<.001

CONCLUSIONS AND RECOMMENDATIONS

Impact on Children

Do summer programs prevent regression or improve severely handicapped children's skills and behaviors? Are beneficial effects retained over time?

Behaviors

Conclusions. It is apparent from the results of the observation data on inappropriate behaviors that High and Medium Structure summer programs had a significantly greater immediate impact in reduction of inappropriate behaviors than did the long or short recreational programs. This impact was of a similar magnitude for High and Medium Structure programs. Short and Low Structure* programs did not produce decreases in inappropriate behaviors. On the contrary, there was regression during the summer to more inappropriate behaviors for children from these programs, as well as for those who attended no program. This regression was of similar proportions for the three groups. One can conclude that High and Medium Structure programs had similar positive immediate impact on children's behaviors, while Low Structure and Short programs had similar negative immediate impact, as did non-attendance at a summer program.

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*Note. The reader is reminded that recreational (Low Structure) programs had a distinctly different set of goals which did not focus on skills and behaviors. Consequently, this fact is reflected in the results of the study, the purpose of which was to ascertain the effects of summer programs on children's skills and behaviors.

However, the data from the follow-up study revealed that the differential effects found in midyear favored the groups who had regressed during the summer program. All groups returned to levels similar to their pre-summer program inappropriate behavior scores. Therefore, one can conclude that the immediate beneficial effects of summer programs on inappropriate behaviors were not retained during the school year.

Commentary. The reasons for the reversal during the year of the positive effects of certain summer programs on inappropriate behaviors is unknown. Several possible explanations can be suggested but these would need further exploration.

The beneficial effects on behaviors of High and Medium Structure summer programs may have appeared greater than they really were in contrast to the other programs. Because of time restrictions for the study, postprogram observation of behaviors took place towards the end of summer programs for both the Medium and High Structure groups. However, for children from recreational programs, as well as for those who attended no programs, observations had to be carried out in September in the school setting. Perhaps this hiatus allowed children from short and long recreational programs to regress during the post-summer program break of two weeks or more. Had time allowed if would have been desirable to observe what kinds of changes occur in that short interval.

In addition, a number of children had new schools and/or new teachers in September. This situation would not have affected the posttest data collected in August for High and Medium Structure programs but could have influenced posttest scores, gathered in September for No, Short and Low Structure groups.

In Medium Structure summer programs there were lower child-adult ratios in the summer than during the school year due to fewer children and more volunteers. In High Structure programs, the intensity of programming appeared to be greater and more sustained in summer programs than during the school year. These aspects may have contributed to the strong beneficial effects of summer programs followed by the regression during the early part of the school year.

In addition, this regression for children in High and Medium Structure programs may reflect the greater degree of handicap of children in these particular programs. Generally, children in recreational programs, as well as those in no programs were less severely handicapped, particularly in behaviors.

It is also possible that teachers stressed change of unacceptable behaviors more for the children who regressed during the summer simply because of the disturbance created by such behaviors. They may have tended to expend less effort with those whose behaviors improved during summer programs because they found them much better behaved than before summer. Therefore, their expectations may have diminished for these children, who then may have reacted accordingly.

It is likely that behaviors are strongly influenced by immediate environmental situations. Therefore, behavior observation data collected over short segments of time within a restricted time period reflect these environmental influences. The behavior instrument which was utilized was finely divided, and therefore, reflected small behavior changes. In addition, observation of behaviors was carried out over a short period of time. Therefore. although every effort was made to have observation periods in every phase of the study equally representative of the children's behaviors, some unknown factor may have entered into one or other of the observation periods.

Skills

Conclusions. From the data contained in preceding sections, it can be concluded that all summer programs were successful in enabling severely handicapped children to retain skills (gross and fine motor skills; self-help skills of eating, toileting and dressing; receptive and expressive communication skills; cognitive skills; social skills of interpersonal interaction and classroom behavior) during the summer vacation. The six-week High Structure programs produced the best results for skill gain. When skill retention is considered combined with skill gain, six-week Medium Structure programs had positive results similar to the High Structure programs. Although not significantly better statistically, six-week Low Structure programs had a tendency to have a higher proportion of children gaining skills than Short and No program groups. Longer programs with emphasis on skills helped severely handicapped children retain skills to a significantly greater degree than did the long and short recreational programs that did not stress skills.

Since in midyear, the relative positions of children from the various programs remained as it was at the end of summer, one can conclude that beneficial effects of their programs were retained. Children from High and Medium Structure programs retained the statistically significant positive effects which were evident at the end of summer programs. This was the case for all skills, except that of toileting.

Commentary. Again, the cause of the phenomenon of the beneficial effects of summer programs on children's skills being retained during the year while the beneficial effects on behaviors was lost can be speculated about. Possibilities which may need further exploration occur to this researcher.

It may be that skills are more complex and once lost take longer to regain while appropriate behaviors are more quickly regained. Therefore, although children from No, Short and Low Structure programs regained their pre-summer program level in behaviors by midyear, they continued to remain at the same relative unfavorable position in relation to High and Medium Structure programs in regard to skills.

Instrumentation and collection of data for skills differed with that of behavior data collection. Changes in skills data resulting from teachers' observations were over a longer span of time and were reported in broad categories. Because changes with severely handicapped children are particularly slow, data collected in this manner may, in a sense, more accurately represent progress for these children.

However, as teachers' opinions were the sole source of information used for the measurement of skills, less confidence might be placed on the findings. Inconsistencies probably exist among the ratings. However, the same teachers rated the progress of the same group of children for each observation period. Accordingly, follow-up data would likely reflect the same biases as the ratings at the end of summer. As a consequence, comparisons between progress over the summer and during the fall-winter period seem warranted.

Processes and Procedures

What are the characteristics and benefits of particular summer programs and the methods and activities they utilize in implementing their objectives?

Goals and Objectives

Conclusions. A variety of summer programs for severely handicapped operated in Alberta. From data collected on goals, processes and procedures during the summer, one can conclude that programs differed in their goals from skill and behavior retention and improvement (High Structure, educational) to those having a recreational focus with attention given to skills and behaviors as the need arose (Low Structure and Short programs). There were programs with varying degrees of combined recreation with skill and behavior retention and improvement emphasis. The latter were labelled Medium Structure, mixed educational and recreational.

Commentary. It must be noted that High and Medium Structure programs on which skill and behavioral data was collected were, in a sense, a continuation of school programs. These summer programs were organized and administered by the same staff who planned children's school programs; their goals were similar to those of school programs; children's individualized programs were continued, especially in the High

Structure programs. However, such was not the case for the recreational programs and the mixed emphasis programs in the rural areas. These were separate from school programs both in organization and in goals.

Parents indicated, in response to a questionnaire item, their agreement to increasing the emphasis on skills and behaviors. However, parents whose children attended recreational programs did not want to lose this aspect. There were many comments from parents and staff indicating that severely handicapped children need organized recreation and socialization perhaps even more than non-handicapped children who are able to get these on their own while the handicapped cannot.

Integration

Conclusions. Recreation in an integrated setting with non-handicapped children was viewed by participating parents and staff as a positive factor in the lives of the handicapped and non-handicapped alike. This investigator concludes therefore, that although integrated recreational programs did not improve children's skills and behaviors in the same manner as the more educational programs, they did have benefits only indirectly measured by this study.

Commentary. Programs with integration of activities with non-handicapped children were about equal in number to those which were segregated but did take children on outings and field trips. However, by far the greater number of children were in the latter category as it was mostly in the rural areas where there are small numbers of handicapped children that complete integration of activities took place. In large centres and with larger numbers of children, although it may be more difficult to integrate, it is not less desirable.

Adult and Child Interactions and Activities

Conclusions. During summer programs, there were observed differences in the type of adult and child activities and interactions. Programs differed in the amount of direct instructional activity accompanied by positive reinforcement. Data from the study showed that the greater the direct instructional time as well as the amount of positive reinforcement, the greater the reduction in inappropriate behaviors. Therefore, one can conclude that this emphasis peculiar to High Structure programs was responsible for their great success in improving behaviors.

Some of the programs spent a considerably greater portion of time in general outer-directed activities (working with children in tasks such as supervision, organization, play, conversing, listening or responding, but not in direct instruction) than did the High Structure programs. This aspect was correlated with an increase in inappropriate behaviors. It can be concluded, therefore, that this type of activity, evident especially in recreational programs, hindered improvement in behaviors.

In some programs, there was a large proportion of negative inner directed (self-stimulatory or completely passive) behaviors, as well as a smaller percentage of positive responses to others. The correlation analysis data support the conclusion that the failure to stem the occurrence of these negative inner-directed behaviors may have been a causal factor in increasing inappropriate behaviors generally.

Commentary. Self-stimulating activities which tend to occur frequently in severely handicapped children need to be stemmed immediately when they begin occurring. If they are allowed to continue, they become more difficult to eradicate. However, eradicated they must be for as long as the child is involved totally with self, (s)he cannot become involved with others or with learning.

The best methods must be utilized in working with severely handicapped children so that they can develop to the utmost of their potential, however limited it may be. Research indicates that, especially for young or less able individuals, verbal instruction alone and unaccompanied by any other sense stimulation tends to be less effective for learning than does a multi-sensory approach. Physical manipulation or assistance alone without preceding or accompanying verbal or nonverbal instruction also appears to be a less effective method of teaching. Greater use of positive reinforcement is always an aid to good teaching, formal or informal. However, program staff were observed utilizing the less effective methods.

Staffing: University Students

Conclusions. It can be concluded from questionnaire comments, as well as from observation of summer programs by researchers that the large-scale employment of university students was highly beneficial. Their youth and dynamism in carrying out programs was a positive factor for the children. For the programs, it proved financially advantageous as the cost of staff was less than it would have been otherwise.

Commentary. The dynamism and genuine interest in handicapped children of the large numbers of university and high school students employed in most summer programs was impressive. In the opinion of the director of this study, who observed most of the programs in the province during the course of the summer, tremendously good work was being accomplished both for handicapped and non-handicapped children.

Not the least beneficiaries were the university students themselves. This was a useful experience for the high school and university students who learned to work with and accept those "different" from themselves. Moreover, it was profitable to them as summer employment.

Staff Preparation

Conclusions. From staff comments as well as summer program observations, this researcher concluded that summer staff need more preparation and training for the difficult task of programming for severely handicapped children.

Commentary. Parents and staff from some of the programs mentioned the lack of adequate staff preparation, as well as the lack of individualized work with children. The timing of approval of summer programs, and therefore, the hiring of staff appeared to be one of the problems associated with the best preparation of staff and of programs.

Staff had received some prior training and in some programs staff had gained some familiarity with the children with whom they would be working during the summer. However, at times, staff did not seem to know how to keep children's attention or how to keep them involved. It was evident to the observers that when some of the children did not have almost constant attention from an adult they quickly drifted into a world of their own. The end result was repetitive, stereotyped, self-stimulating or completely passive behaviors, rather than attention to the activities at hand.

Observation of summer programs by this researcher conveyed the impression at times that severely handicapped children were left to drift into a world of their own. This occurred sometimes because staff did not know how to keep the severely handicapped child involved. At other times, they were too busy with the larger number of non-handicapped children in an integrated setting or with another handicapped child in a segregated setting.

Summer staff could be better prepared. It would be particularly useful to access for training individuals who have specialized training and experience in the area of handicapping and in the best instructional methods for severely handicapped children.

The comments on the need for staff preparation is not intended as an indictment of staff in summer programs but rather a call for more adequate preparation for all staff. This researcher believes that the comment of a parent who credited the staff member who worked with this particular child capsulizes well the goals of programs and the results of the good work of summer program staff: " ... has become a very happy and skillful boy over the summer. He seems really happy!"

Community Involvement

Conclusions. From the data gathered, it can be concluded that, in some of the programs, there was insufficient involvement of parents and of the community. In addition, observations and staff comments indicated that shortage of staff and of funds presented problems in some programs.

Commentary. In addition, in some programs, at least, there appears to be a need for greater involvement of the general public. Children are taken into the community for outings and field trips, which is a very positive thing, but there is also the need to have the handicapped accepted by the public and have the public involved in the programming.

General Summary

Conclusions. This study concluded that the summer break with no programming for severely handicapped children resulted in regression in skills and behaviors measured in the fall. Regression was evident at that time as well for children from recreational programs, both long and short. However, attendance at particular types of summer programs prevented regression and improved children's skills and behaviors. This was true for programs which emphasized wholly or in part the retention and improvement of skills and behaviors, that is, the

High and Medium Structure programs.

The follow-up study demonstrated that the positive effects on skills continue to be evident over a longer period of time. However, this was not the case for inappropriate behaviors where all groups returned to their pre-summer program levels. Children from non-skill and non-behavior oriented programs lost the inappropriate behaviors acquired but they continued to retain an unfavorable relative position in skills compared to those programs which emphasized skills and behaviors. Therefore, immediate beneficial effects on skills were retained over time but immediate beneficial effects on inappropriate behaviors were not retained over time.

This study concludes that, in spite of the mixed evidence of benefits of summer programming for severely handicapped children's skills and behaviors, parent support for summer programs indicates that benefits, not measured directly by this study, do exist.

Commentary. Handicapped children tend to become unacceptable to others because of their frequent bizarre behaviors. Therefore, if we want the end result to be greater acceptability of the handicapped and greater acceptance by society, it is important that serious efforts be made to eliminate these behaviors. In addition, these self-involved behaviors generally draw children away from reality and prevent them from remaining on task while they are being taught.

In order to reduce these behaviors so that learning can take place, it is necessary to give the children almost constant attention and keep them occupied. Hence, the need for a very low adult-child ratio. Experience appears to indicate that for an adult to be able to devote a sufficient amount of time to keep each severely handicapped child occupied, a ratio of one adult to, at the most, two children is necessary. Where there was a consistently low adult-child ratio, the children were generally kept on task and learning resulted.

Parents and staff overwhelmingly supported the existence of summer programs for severely handicapped children and wanted their children in future programs. In no other types of items on the parent and staff questionnaire were there such a large majority who responded in the strongly agree or strongly disagree categories. In addition, longer programs for more children were supported by parent responses. Perhaps the relief provided to parents and siblings by summer programs ought to be assessed and valued.

Therefore, further follow-up is needed to answer the questions regarding the long-term benefits of summer programs, as well as the benefits of particular types of programs. Perhaps, measurements taken even at the end of the school year in which this short-term follow-up was carried out would produce different results.

Recommendations

As a result of analysing processes and procedures in use in summer programs, as well as regression, retention, and gain in skills and appropriate behaviors in severely handicapped children, it is the recommendation of this study:

1. that summer programs for severely handicapped children continue to be funded, at least to the same degree that summer programs are made available to non-handicapped children, but that the more specific needs of handicapped children be addressed in these programs.
2. that six-week or longer programming be implemented for all severely handicapped children.
3. that emphasis be placed on retention and improvement of children's skills and behaviors in all summer programs.
4. that all programs continue to be funded sufficiently to provide a child-staff ratio which will enable an almost constant attention be given to the development of skills and appropriate behaviors.
6. that recreation in an integrated setting be retained as one of the goals of summer programs.
7. that increasing emphasis on skills and behaviors be accomplished within the structures of present program organizations without integrated recreation programs having to lose their primary focus.
8. that greater integration with non-handicapped children and the community be mandated for programs not now

including this feature, thus providing greater normalization of handicapped individuals, but with the degree and manner of implementation being allowed to differ according to local circumstances.

9. that greater involvement by parents and other community adults, as well as community organizations be required, not only to supplement the work of staff and provide funds, but also to provide society with the opportunity to develop more positive attitudes towards all groups and individuals who are "different".
10. that university and high-school students continue to be employed as summer staff.
11. that increased preparation of staff assigned to these children, especially staff lacking in training and experience with severely handicapped children be carried out before programs start. This preparation should be two-fold: information on handicapping conditions, as well as instructional strategies and tactics for working with handicapped children, in general; and specific knowledge of the level of functioning and individual needs of the particular children to be assigned to staff. The best staff preparation possible, therefore, cannot be too strongly recommended.
12. that program organizers, planners and staff become more aware of the most effective methods for facilitating learning, particularly in severely handicapped children

and also become more conscious of the need to analyze the kinds of activities taking place in their programs in order to utilize those most conducive to helping these children.

13. that program funding be approved early enough to allow for adequate program planning and staff preparation.
14. that further studies be made to assess long-term impact of summer programs on skills and behaviors of severely handicapped children.

Implementation of the recommendations of this study would provide an environment most conducive to the full development of the potential of severely handicapped children. The focus on behaviors and on skill development to produce an individual more independent and more socially acceptable would be complemented by enabling that individual to cope in a larger social context more open and accepting of the handicapped individual. The increased independence of the child and the increased acceptance by society of individuals who are "different", the lesser the costs of long-term care and education for severely handicapped children.

BIBLIOGRAPHY

Abt Associates, Inc. Assessment of Selected Resources for Severely Handicapped Children and Youth. Volume 3: Data Analysis and Results, 1976. (ERIC No. ED 134 614).

Edgar, E., Spence, W., & Kenowitz, L. Extended school year for the handicapped: Is it working? The Journal of Special Education, 1977, 2 (4), 441-447.

Edmonton C.A.P.E. Summer Intervention Program for Sensory Multihandicapped Students: Summary Report. Unpublished manuscript, Edmonton Public Schools, Edmonton, Alberta, 1982.

Ferguson, G. A. Statistical Analysis in Psychology and Education (4th ed.). New York: McGraw-Hill, 1976.

Glass, G. E. & Stanley, J. C. Statistical Methods in Education and Psychology. Englewood Cliffs, N.J.: Prentice-Hall, 1970.

Guidelines for Applicants. Alberta Recreation and Parks: Recreation for the Disabled Financial Assistance Program, 1983-84. Alberta Recreation and Parks, Government of Alberta, Edmonton.

Kabler, M. L., Stevens, T. M., & Rinaldi, R. T. Extended school year for the handicapped: Legal requirements, educational efficacy, and administrative issues. The Journal of Special Education, 1983, 17 (1), 105-113.

Klaber, M. M. Retardates in Residence, A Study of Institutions. University of Hartford, W. Hartford, CT:

1969. (ERIC No. Ed 041 421).

Larson, L., Goodman, L., & Glean, R. Issues in the implementation of extended school year programs for handicapped students. Journal of Exceptional Children, 1981, 47 (4), 256-263.

Repp, A. C., Barton, L. E., & Brulle, A. R. Correspondence between effectiveness and staff use of instructions for severely retarded persons. Applied Research in Mental Retardation, 1981, 2, 237-245.

Sensory Multihandicapped Program Planning Project. Alberta Education Planning and Research Branch. Edmonton: Government of Alberta, 1979.

Stotland, J., & Mancuso, E. U.S. Court of Appeals decision regarding Armstrong vs. Kline: The 180 Day Rule. Journal of Exceptional Children, 1981, 47 (4), 266-270.

Assessment Instruments

AAMD Adaptive Behavior Scale for Children and Adults, 1974 Revision. Charles J. Fogelman, Editor. American Association on Mental Deficiency, Washington, D.C.

Fairview Self-Help Scale by Robert T. Ross. Fairview State Hospital, California, 1969.

Fairview Problem Behavior Record by Robert T. Ross. Fairview State Hospital, California, 1971

Manual for the Assessment of a Deaf-Blind Multiply Handicapped Child, 1978 (2nd ed.) by James M. Rudolph. Midwest Regional Center for Services to Deaf-Blind Children, Michigan Department of Education, Lansing, MI.

Appendix A

The Efficacy of Summer Programs
for
The Dependent Handicapped
and
The Sensory Multihandicapped:

A Survey

ALBERTA EDUCATION

SPECIAL EDUCATIONAL SERVICES

The Efficacy of Summer Programs for the Dependent Handicapped and the Sensory Multihandicapped:

A Survey

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March, 1983

EXECUTIVE SUMMARY

This report was developed as a preliminary step in looking at the efficacy of operating summer education programs for dependent and sensory multihandicapped children and pupils in Alberta. Included in this report is information gathered from a formal literature review, an examination of expert testimony in several relevant American legal cases, plus a survey of existing programs within the province and elsewhere in Canada.

The formal literature review provided inconclusive results. Few Canadian or American studies evaluating such programs were found. There does exist an extensive body of informal anecdotal data. The lack of a substantive body of empirical research makes the justification of summer programs difficult.

Questions such as whether students lose skills over the summer, whether summer programs help students acquire skills or maintain skills already learned remain unanswered by the literature. Variables such as length of program, objectives of programs, expertise of staff and types of children being served make comparisions across programs even more difficult.

Expert testimony offered in several American legal cases restates the lack of empirical studies either supporting or contradicting the general opinion of educators that substantial interruptions in educational programs cause some of these children to suffer significant loss of skills. There was agreement that each handicapped child has unique needs and will respond in his or her own way to a given situation.

Over 550 sensory and dependent multihandicapped students attended programs during the summer of 1982 in Alberta. Most of these programs were financed through Alberta Recreation and Parks and therefore had a recreation focus. Educational goals were secondary.

A survey of the other provinces suggests Alberta is one of the few provinces to try to deal with the issue of summer programs for sensory and dependent multihandicapped. Saskatchewan considered such programs but decided such programs worked against the integration of sensory and dependent multihandicapped students into the community. Ontario and British Columbia have procedures whereby school boards may use educational funding for summer programs for severely handicapped children. In Manitoba, school boards provide summer programs for blind multihandicapped children. As well, using a quite different approach, Manitoba makes available to parents of deaf-blind children funds to hire an intervenor to work with their children for eight weeks during the summer.

It becomes clear the issue is complex and that there exists, at present, no evidence that conclusively spells out the role and educational value of summer programs for dependent and sensory multihandicapped students.

It is recommended that Alberta Education fund the Elves Memorial Child Development Centre for the summer 1983 program, and that Alberta Education mount a substantial research project through the Planning and Evaluation Division to evaluate the impact of summer programming on dependent and sensory multihandicapped children and pupils in a number of selected programs throughout Alberta.

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ABSTRACT

The purpose of this review was to gather information that would help clarify important issues regarding summer programming for dependent and sensory multihandicapped students. The issues examined were:

a) the loss of skills or regression over the summer months;
b) the recovery rate of skills; and,
c) the effectiveness of various types of summer programs.

The task was accomplished through a review of research findings, expert testimony from legal cases in the United States and a survey of existing programs within the province and elsewhere in Canada. The research literature provided no Canadian findings; in fact, there were few pertinent studies. Of these few, most are informal in nature and lack rigour. In general, the existing studies and expert testimony offered in Armstrong vs. Kline and Battle vs. Commonwealth would seem to suggest summer programs as necessary.

In a survey of summer programs operated in Alberta in 1982, Alberta Recreation and Parks sponsored, as its mandate, 39 programs. Alberta Education sponsored two for sensory multihandicapped children through the C.A.P.E. program, and one was co-sponsored with Alberta Social Services and Community Health (Elves Memorial Child Development Centre Program). Information concerning the number of students and the nature of the programs are included along with, where possible, a full final report.

The conclusion was that a formal research study should be undertaken to more fully explain the issues of skill loss, skill recovery and program effectiveness with regards to summer programs for dependent and sensory multihandicapped within the province. Such a study should be undertaken under the auspices of Alberta Education, Planning and Evaluation Division.

FOREWORD

Interest was shown by the Elves Memorial Child Development Centre in providing a modified program during July and August 1982. The experimental summer program was subsidized by the Minister of Education to the extent of $30,000. The Minister requested that a literature search be carried out to see whether twelve month programming and funding are justified. This review of the literature has been undertaken to bring together as much information as possible to address this issue.

The information in this review is as accurate as it has been possible to ascertain. There may be programs which have not come to our attention.

SOME QUERIES AND QUESTIONS

Inherent in the issue of summer programming for severe and dependent multihandicapped children are a variety of informal questions.

To establish the need for such programs a careful examination of regression and recovery - whether skills are lost and the time factor involved in regaining them - is required.

Questions might run something like this:

1. Is there a loss of skill, a regression over the summer months?

2. What is the nature of the regression?

3. Does it vary with the nature of the handicap?

4. Do non-handicapped children regress?

5. What part does the multihandicapped individual's involvement or lack of involvement in a summer program have to play in such a regression?

6. How is regression measured?

7. What about recovery?

8. How much time is required for recovery?

9. Do summer programs make a recovery period unneccessary?

10. What is the nature of the impact of summer programs on recovery time?

Also important here, are questions concerning program effectiveness. Of course, program effectiveness is usually measured by examining how the program meets its set objectives. Still, what type of programming would be most useful or effective for these children? What type of programs have been effective? How was effectiveness measured? What is the most effective length of time for such a program? What are the best staffing arrangements?

Out of all of the above comes some more formal questions:

1. Does a continuous program make a significant difference to the multihandicapped?

2. Do such students regress during the summer months when programs shut down?

3. What type of evaluation is being use to establish the answers to these questions?

4. What are the objectives of existing summer programs for such children?

1. Definitions of Disabilities

Sensory Multihandicapped

Students whose visual and/or hearing impairment may be accompanied by other handicapping conditions to the extent that the student requires specialized services usually unavailable in programs for handicapped children without visual and/or hearing impairments or in programs designed for children with visual or hearing impairment only.[1]

Dependent Multihandicapped

Students who because of the intensity of a combination of physical, mental and/or emotional problems are unable to function without reliance on someone else to care for their own needs.

2. Various Approaches to Summer Programs

There have been a variety of approaches to the issue of summer programming for the severe and the multihandicapped. The five types of programs most frequently found are:

a) Summer Programs:

Programs taking place from 2 to 6 weeks during the summer months.

b) Extended Year Programs:

Programs taking place during the summer implementing the same objectives as the program already in place during the school year.

c) Continuous Schooling:

Programs which are ongoing and encompass the whole year.

d) Recreational Programs:

Programs with a largely recreational intention.

e) Educational Programs:

Programs with a largely educational intention.

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[1] See Sensory Multihandicapped Program Planning Project, Alberta Education, Planning and Research Branch, October, 1979, page 7.

REVIEW

INTRODUCTION

Four approaches have been taken to ascertain pertinent information which would clarify issues integral to summer programming for sensory and multihandicapped students.

a) A formal search of research literature - in particular through Educational Research in Canada, Exceptional Child Educational Research, Psychological Abstracts, Social Sciences Citation Index and Canadian Publishers Index;

b) An examination of the issue as dealt with in the expert testimony used in the United States Federal Court cases Armstrong vs. Kline and Battle vs. Commonwealth;

c) An informal survey of existing programs within the province; and,

d) An informal survey of existing programs elsewhere in Canada.

A. Formal Literature Review

Extending the school year for handicapped students has been advocated in order to:

1. Prevent their loss of skills during the summer months;
2. Maintain their skills;
3. Accelerate their acquisition of new skills;
4. Provide them with recreational opportunities; and as well,
5. Provide a respite for parents.

Although these reasons have high face validity, there has been little research evidence presented to document them; even less evidence is available concerning the effectiveness of these procedures. If this lack is true of research focused on summer programs for the handicapped in general, it is no less true for select populations such as the sensory and multihandicapped. At this time the lack of a substantive body of empirical research makes the justification of summer programs, extended school year programs, difficult.

1. Loss of Skills

It is almost an article of faith that during the summer some students - and particularly the more severely handicapped - lose many of the skills they acquired during the regular school year and even worse, they take an inordinate amount of time to recover or recoup those skills when school resumes each fall. Teachers commonly complain that students regress during summer months, reporting that those who were performing well on specific tasks in May and June have lost many of these skills by September when they return to school. Such anecdotal reports indicate that as the severity of the handicap increases the degree of skill loss increases.

There is the added argument that if the first few months of each new school year are used to review old skills, students will acquire fewer new skills each year. Unfortunately, data in the research literature to document this claim are virtually non-existent. There is no data to indicate how much the students regress or how much instructional time is required before they regain these lost skills. If, for example, lost skills were regained in 2 or 3 weeks time, extending the school year or implementing summer programs to prevent loss in student skills would be an inefficient use of resources and would be hard to justify. Maintenance activities can only be considered valid when student skill losses are documented to be severe.

2. Maintenance of Skills

In one of the few evaluative studies focused on skill level, Ellis (1975)[a] found that of 16 severely multihandicapped blind children involved in a summer program no child decreased in skill levels in the following areas: communication skills, vision training, psychomotor and perceptual training, social development, ambulation, self-dependence, self-awareness, and awareness of others. In a supportive and similar study with 145 neurologically and physically handicapped students Ellis (1975)[b] found a statistically significant improvement of participants in program skill areas. This research would seem to suggest that summer programs are valuable efforts in maintaining skill levels. In contrast, Edgar, Spence & Kenowitz (1977) critically analysed 18 extended school year programs in the State of Washington. Of these programs, eight set maintenance of skills as a primary objective. Student evaluations included teacher observations of specific child performance, rating scales and standardized tests. From the analyzed data there was some evidence that multihandicapped children fail to maintain skills during summer months even with instruction. Some explanations for such a finding may be found in a paper by Larsen, Goodman & Glean (1981). They suggest that:

> skill maintenance cannot be achieved unless there is a continuity between the objectives of the educational programs provided for and the instructional methods used with each student during the preceding school year, the summer programs, and the subsequent school year ... provisions should be

> made for the summer school staff members to become acquainted with each student's program and instructional procedures prior to the end of the school year. (p.258)

3. Acquisition of New Skills

Obviously, sensory and multihandicapped students acquire skills at a slower rate than do the non-handicapped or less severely handicapped. The argument is generally put forward that such students need summer programming as additional opportunities to acquire new skill. Since there exists little data which systematically analyzes such student's performance levels, there is little to indicate the amount of gain students do in fact make during summer programs. Again there are informal anecdotal reports but little formal research (Allward et al., 1975). No known research clearly indicates that the newly acquired skills are evident at the beginning of the subsequent school year or that students who acquire additional or new skills during the summer show increased learning during the subsequent school year (Edgar, Spence & Kenowitz (1977).

4. A Final Statement on Skills

No studies presented data showing the students' performance level at the end of the previous school year. Thus, it is impossible to judge whether student gains represented the acquisition of new behaviours. As well, no data was reported on student performance during the subsequent school year. Hence, it cannot be ascertained whether summer programs had any effect on student performance in the subsequent academic year.

An important consideration is not whether students maintain skill levels during the summer months or even until the beginning of the next school year but whether or not these students evidence skill gains over their peers who did not participate in an extended year program at the end of the subsequent school year (Edgar, Spence, Kenowitz 1977, p. 445).

5. Recreational Opportunities

The severely handicapped need special recreational activities. Some summer programs are developed to provide summer recreational opportunities (Edgar, Spence & Kenowitz 1977). The problem, here, is in differentiating the concerns of education and recreation as well as recognizing the overlap. Issues such as the kind of skills most desirable/important for students to acquire and the kinds of programming considered essential are critical.

In one of the few empirical studies to examine a recreational summer program, Wolpert, Leuchter and Schmidt (1976) report that most of the 20 multihandicapped pre-schoolers benefited from the six week program. One of the major goals of the program was to improve the functional independence of each child (p. 300). Improvement in functional independence was measured by the Functional Skills Profile, a non-standardized assessment battery used to qualify performance changes in low-functioning developmentally handicapped persons and most of the subjects evidenced improvement.

6. Parental Respite

Though the literature does not speak to this issue at all, parental respite must remain a central and implicit concern if only for ethical reasons.

Origin of Research

It should be noted that all the research presented in this review originated in the United States of America. Little or no formal Canadian research was found.

B. Expert Testimony: The Legal Basis for Extending The School Year in the United States

Stotland and Leonard (1981) clearly state the legal basis for extending the school year and this will not be repeated here. Suffice to say the intent of the United States courts in Armstrong vs. Kline (1979) and Battle vs. Commonwealth (1980) has been to insure an appropriate and individually designed program of instruction for each child.

The expert testimony offered in these cases is seen as pertinent to the present review especially on the question of regression and recovery. The expert witnesses agreed that it is the general opinion of educators and other professionals that substantial interruptions in educational programming cause some of these children to suffer significant loss of skills. Nonetheless, the experts recognize that there is no known statistical study supporting or contradicting this opinion. They also acknowledge that non-handicapped children may experience loss of skills over similiar breaks in schooling.

1. Regression

The court concluded from the expert's testimony concerning the class and named plaintiffs that as a result of programming interruptions some multihandicapped children lose a large amount of skills and development, even when their parents make reasonable efforts to help them maintain the progress made in school. The evidence is clear that, at least in part, the regression is caused by the absence of programming during the summer break.

Expert testimony for the plantiffs was given by Associate Professor and Chairperson of the Department of Special Education at Temple University with a Ph.D. in Special Education, Dr. Terrence J. Piper; by Dr. John R. Kleiser[2], Director of Clinical Services at the Woods School; by Dr. Marvin Rosen[2], Assistant to the President of Elwyn Institute and by Christine Dadjian-Peacock, a teacher of severely handicapped children. All of them agreed that there was a loss of skills. The defendents' claim was that any regression experienced is not due to the break itself and is coincidential. They account for the regression by the non-functionality of skills being taught, the lack of teacher competency and parental failure to properly practice with the children skills that have been taught in school.

The court did not accept their theory. The plaintiffs' evidence indicates that when students who regress during breaks receive programming, they generally do not lose skills even if they are taught what the defendant's experts consider non-functional skills by what these experts deemed not competent teachers and are not provided with a maintenance program by their parents. However, these and other factors may, in actuality contribute to regression. Lack of functionality of skills, teacher incompetency and parental failure to maintain their children's skills when they have both the time and the ability to do so may cause regression in certain instances, so these factors ought not to be dismissed.

2. Recovery

Since there were no statistical studies to guide the Court on the question of how long it takes these children to relearn or regain what they have lost, the Court had to make a decision based upon expert testimony.

Based upon experts' opinions, the Court found that the rate of relearning for all types of children differs from child to child. Undoubtedly, the rate of relearning is affected by a number of factors including those that were found to affect learning, as well as the amount and type of regression the child experiences and the length of time without programming. The evidence suggests that normal children regress less and recoup their losses at a faster rate. Severely handicapped children may take months to return to their pre-summer level of skills whereas a nonhandicapped child may take a few weeks, almost never more than a month.

The strong opposition voiced by defendant's experts to an educational program in excess of 180 days was partially based upon their belief that handicapped children, because of their inability to easily generalize, need time to function in their natural environment; they need the opportunity to employ what they have learned from their formal education in a more informal context that is likely to approximate their reality upon leaving school. The plaintiffs' experts claim that an education in excess of 180 days does not mean that these children are denied that opportunity.

3. Summary on Issue of Regression and Recovery

Neither regression over breaks in programming nor long periods of time to regain lost skills are a certainty for severely handicapped children. Nevertheless, some of these children will experience both. The experts in this case disagreed on many areas but uniformly agreed that each handicapped child has unique needs and will respond in his or her own way to a given situation. Decisions then must be made on an individual basis, by those familiar with the child.

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[2] These men held doctorates in psychology from University of Pennsylvania and had experience with severely handicapped children.

C. Survey of Summer Programs in Alberta

1. Current Status of Summer Programs

Prior to April 1982, summer programs for sensory and multihandicapped students were part of the mandate of Alberta Social Services and Community Health. As of April 1982, the responsibility, mandate and funding lies mainly with Alberta Recreation and Parks: that is, the department is prepared, on an ongoing basis, to fund community based summer programs for the sensory and multihandicapped child. Consistent with the contract between Alberta Education and Edmonton Public School Board for the education of sensory-multihandicapped students, Alberta Education sponsored two programs through Coordinated Assessment and Program Planning for Education (C.A.P.E.). As well, the Minister of Education provided funding along with Alberta Social Services and Community Health through Alberta Recreation and Parks to a program at Elves Memorial Child Development Centre during the summer 1982. Alberta Education is now in the process of assessing its ongoing involvement in this area.

2. Summer Programs Funded by Alberta Recreation and Parks in 1982

A specific philosophical approach was given by Alberta Recreation and Parks to guide the programs:

a) Disabled children should be given the same opportunity to participate in recreation programs as their "normal" peers.

b) Disabled children should have the same opportunity for "play" as their "normal" peers, as play is vital to the total development of the child.

c) Recreation programs for the disabled need to be developed on a continuum with totally segregated programs being on one end of the spectrum and integration being on the other end. Therefore, program development needs to consider the individual needs of each child and plan programs along the full range of the continuum.

As can be seen, integration was a key concern. The program was available only to municipal recreation authorities. Incorporated/registered community agencies might be considered as a program provider if suppported and endorsed by the local recreation authority. The costs covered were some of the staffing costs, not equipment, materials, publicity, administration or transportation costs.

For the sake of this report, it is important to note the definition for Multiple to Dependent Disability used in this program:

a) little ability to help themselves;
b) limited or no awareness of themselves or others;
c) limited or no communication skills;
d) limited ability to get from place to place;
e) require regular medical support;
f) require ongoing assistance and support;
g) limited or no ability to respond to or perform simple requests.

The ratio used was one staff for 2 children. The programs run in 1982 varied in educational content. All activities were to be of a recreational or play nature though a secondary theraputic or educational purpose for the activity might also exist. For example: if it was important that the child learn left from right, up from down, holding his head up...these were incorporated into play activities.

Mr. Terry Keyko, Consultant, Special Recreation Services Section, Alberta Recreation and Parks, suggested in a recent discussion that recreation could be used as a means to reach some educational objectives. Non-handicapped children use the summer to learn skills in areas other than those usually developed in a classroom setting. He felt it important that this opportunity should also exist for the handicapped. This idea is further explored in Participation: Expanding Community and Leisure Experiences for People with Severe Handicaps (Lord, 1981). Guidelines for 1983-1984 are now available and are much more explicit in their promotion of integration and "normalization" (Wolfensberger, 1972).

a) Program must be intended for persons with disabilities under the age of 18.

b) Programs must be based on the principles of recreation and play. Recreation/Play must be the priority for all programs funded by this grant.

c) Programs should provide some opportunity for either physical and/or social interaction between disabled and non-disabled children.

d) Programs should, if possible, be located in community-based recreation facilities such as neighbourhood playgrounds, community schools and their adjacent facilities, parks, community centres, etc.

e) Program activities must be appropriate to the age and the interests of the participants and should allow the opportunity for participation based on ability.

f) Programs designed exclusively for children with disabilities are eligible for funding under this grant. However, justification and supporting evidence must be provided to indicate why this approach has been chosen and what consideration is being given to the integration of these individuals into regular, ongoing programs.

g) Mildly and moderately disabled children should be integrated into existing summer programs with their non-disabled peers. If they are not being integrated, support information must be provided to justify this approach.

h) Information must be provided on how the number of disabled participants has been arrived at.

i) If programs are not being operated by the municipal/recreation authority, it is required that information be provided on what role the municipal/recreation authority will have in the program. (eg., financial assistance, leadership training, evaluation, administration, program planning).

It should be pointed out that a full and more thorough report will be issued by Recreation and Parks in June 1983 reviewing all the programes of 1981-1982.

Types of Programs Funded

Four types of summer programming were funded:

Playgrounds - Traditionally located on neighbourhood playgrounds with activities largely based on site.

Summer Fun - Centrally located in neighbourhoods or communities with activities being a balance of on and off site.

Day Camps - Generally located in park-like settings, offering day long programs with focus on the outdoors.

Residential Camps - Located at a variety of facilities, usually between one to two weeks in duration and with a specialized component (e.g., sports, outdoor education, culture, etc.).

Funding Sources

Funding for the summer programs often came from a variety of sources, one of which was Alberta Recreation and Parks. A look at Appendix A will show that a number of agencies, associations and government departments on a local, provincial, and federal level acted as possible sources. Not in all cases, but often, local associations contributed. The Federal Department of Employment and Immigration also was supportive in several instances.

TABLE 1

SUMMER PROGRAMS SPONSORED BY ALBERTA RECREATION AND PARKS

i) Number of Students
ii) Age of Students
iii) Length of Program

PROGRAMS	5 & under	6-7	8-9	10-11	12-13	14-16	16 & over	Length in weeks
Grande Prairie Peace District Soc.		2	2	3				6
Fort McMurray Y.M.C.A.				1				8, 2P*
St. Albert		2						5
Smokey River				1	2	2	2	10
Lethbridge City	2	4						9
Old Man River (Leth.)	1	2	3	3	2	2	1	9
Nicholes Sheran Construction Co.: Making Summer Fun Grant (Lethbridge)	1	6						2W, 3P*
Alberta Association for the Dependent Handicapped (S.P.) Edmonton	7	2	5	5	2	3	1	N/A**
Spruce Grove	4	1						7 1/2
Town of Airdrie	1		1					2
Hinton	3	1	1	1	1			8
Vermilion			1			2		
County of Strathcona Robin Hood				1		8	33	8
Lacombe					1		1	6 1/2
SUBTOTALS	19	20	13	15	8	17	38	

TABLE 1 (continued ...)

PROGRAMS	5 & under	6-7	8-9	10-11	12-13	14-16	16 & over	Length in weeks
Ponoka	2							12
Banff					1			8
Slave Lake	1							N/A**
Barrhead	2	2		1	4	3	4	18
Lac La Biche		1	1					8
Crowsnest Pass				1	1			8
Drumheller				1		1	1	8
Medicine Hat Pre-School	4							8
Medicine Hat		1		1				7
County of Wetaskwin		1	1					10
Camp He Ho Ha		7	8	3	6	10		8
Glenrose	1	2						7
C.N.I.B., Edmonton	4	4	1	2				8
Magrath		3			1	2	5	8
Pincher Creek (a)	2							6
Pincher Creek (b)	1							8
Viking	2	1						14
Camp Horizon			10	10	10	10	35	10
Wetaskiwin		3	1	2	14			8
Innisfail	1					1		7
Provost			1					7
SUBTOTALS	20	25	23	21	37	27	45	

TABLE 1 (continued ...)

PROGRAMS	5 & under	6-7	8-9	10-11	12-13	14-16	16 & over	Length in weeks
Sherwood Park C.N.I.B.			1		1			8
City of Calgary Play Skills	31	6	13	16	13	19	17	8 plus 1 wk. orientation
Taber						2	3	8
Southern Alberta Community Living Association (Leth.)	4	2		2		1	3	N/A**
SUBTOTALS	35	8	14	18	14	22	23	
TOTALS	74	53	50	54	59	66	106	

GRAND TOTAL 462

* Number of programs operated
** Information not available

3. Summer Programs Funded by Alberta Education in 1982

C.A.P.E. Programs

a) Summer Intervention Program at Elmwood School, Edmonton, for Sensory Multi-handicapped Students

This was a collaborative endeavour by the Edmonton Public School District and the Alberta Association for the Dependent Handicapped in co-ordination with the University of Alberta Multiple Dependent Handicapped Program. Summer intervention services were provided for students between the ages of 2.5 and 18 years.

The program was designed to provide comprehensive educational programming to sensory multi-handicapped students who presented the most significant behavioral problems which interferred with the acquisition of new appropriate educational skills and positive social behaviors. Goals of the program were:

- to provide comprehensive educational programming;
- to decrease or eliminate significant behavioral problems;
- to complete comprehensive assessment and program planning for these students;
- to develop functional procedures to manage the development, delivery and follow-up of services to these students; and,
- to field test Summer Intervention Program procedures.

There were 18 students involved in a six-week program. Comprehensive educational assessments were conducted prior to the program and baseline measures of the problem behaviors had been established. From these, behavioral and educational objectives were formulated for each student and individualized programming developed. The report states the results of this program are:

> ... there was educational gain in 83% of all educational objectives identified, and 94% of all behavioral objectives designed to decrease inappropriate social behavior interfering with learning ....

A more complete report from this program is to be found in Appendix B.

b) Summer Intervention Program for the Hearing and Visually Impaired in Northern Alberta

This was a collaborative endeavor by Edmonton Public School District and the Canadian National Institute for the Blind.

Summer Intervention services were provided for 6 children between the ages of 6 and 15 years.

The general program goals were as follows:

- to prevent regression of acquired skills;
- to aid in the development of socialization and recreational skills;
- to facilitate communication between child and family and in general, to improve communication skills;
- to provide a degree of parent relief; and,
- to improve upon the child's awareness of his or her environment through community involvement.

Individual goals for each child were pre-arranged by the educational facility that the child was attending and by parents. The program was strictly home based with a one to one ratio of staff to students. Some important conclusions regarding program design are contained in the final report (see Appendix B for full report):

- The summer program should not be a home based program.
- The program should be a combination of an educational and recreational program.
- The program could possibly take place in a school setting for a portion of the week with recreational activities occurring during the remaining time.
- By part of the program occurring in a structured school setting, the intervenors would have adequate educational resources.
- Support services such as speech pathology, occupational therapy, audiological services, etc., should be available to the intervenor.
- The inservice should be restructured to meet the needs of the intervenors and the needs of the children directly involved in the program.
- The intervenors should have some exposure to the child and the existing school setting before the summer program begins.
- The method of data collection and report writing should be streamlined to both meet the goals and objectives of the program and to alleviate the workload of the intervenor.
- The amount of time spent with each child on a daily basis should be reduced.
- Goals and objectives should be written collectively by the parents, intervenor, and educational staff so that they are realistic and so the intervenor is aware of the demands of the job.
- The summer program should be under the direction of only one agency.

Elves Memorial Child Development Centre

As stated earlier, the funding for the 1982 program at Elves Memorial Child Development Centre was provided in part by Alberta Education and in part by Alberta Social Service and Community Health. This program was not considered a summer program per se; rather it was set up as an extension of the school year program with the same clientele. Cognitive and motor training were provided for 76 severely handicapped children between the ages of 2 and 16 for 8 weeks. The program did offer more community based activities and a higher emphasis on recreation than the regular school year program. The major goals of the program are:

- ° to maximize the development of the child;
- ° to stabilize/support the family.

TABLE 2

SUMMER PROGRAMS FUNDED BY ALBERTA EDUCATION IN 1982

i) number of students
ii) length of program

PROGRAM	Number of Students	Length of Program
Elmwood	18	6 weeks
Homebased Program for Deaf/Blind	6	6 weeks
Elves Memorial	76	8 weeks

4. Other Programs Run During the Summer of 1982

a) The St. Paul Association for the Mentally Retarded held a summer program for 10 children, 2 of which were sensory and dependent multi-handicapped. The focus of the program was recreational, the major goal was that the children have a good time. The funding came from the local Association.

b) Two deaf-blind children were involved in an individual summer program of outings and activities through the auspices of the Citizen's Resource Centre in Lethbridge.

5. Number of Student Involved in Summer Programs in 1982

In summary, 462 Dependent and Sensory Multi-handicapped students attended summer programs through Alberta Recreation and Parks; 100 through programs sponsored by Alberta Education; 4 through other programs making a grand total of 566.

D. Summer Programs Elsewhere in Canada

In general, few of the other provinces have dealt with the issue of summer programs for the dependent and sensory multi-handicapped students. Saskatchewan considered the issue and made a specific decision not to promote such programs. The reasoning was that such programs worked against the principle of integration. Summer programs were seen to isolate these children for special attention and did not promote their acceptance into the normal life of the community. British Columbia and Ontario also have some rulings in place concerning such programs but in neither province are the programs well established. In British Columbia, school boards may receive some funding for summer programs for severely handicapped children. Such summer programs are considered part of regular programming. Present budget restraints have, of course, caused cut backs. Similarly, Ontario school boards may receive a higher level of funding if they provide summer programs for some handicapped students. Manitoba provides the parents of deaf-blind children with $3,000 for an intervenor to work for 8 weeks under the direction of the parents. Students are hired under the Summer Temporary Employment Program by school boards to provide summer programs for blind multi-handicapped children. Manitoba does not provide funds for summer programs to private agencies.

ADDITIONAL CONSIDERATIONS

1. Program Evaluation

Summer programs (Canadian or American) that have been conducted in the past years for multi-handicapped students have rarely been evaluated with precision (Larsen, Goodman, Glean; 1981). A careful evaluation must attempt to deal with such critical variables as the following:

a) Types of handicapped students: the issue here is one of learner characteristics. The question is for whom exactly is the program intended ... which exact type of student will benefit.

b) Length of programs: one clear inconsistency evident in both the literature and information gathered informally within Alberta is the varied length of programs. From the data available it is impossible to determine the crucial amount of instructional time needed to either maintain or increase a students's skills.

c) Instructional staff: the quality of instructional staff varied tremendously across projects.

d) Measurement procedures: in the existing research literature there was no common and consistent method of evaluating student progress.

e) Temporal measurement: the effectiveness of extended school year programs depends on the collection of information on the student skill levels

- at the end of the regular school year;
- at the end of the summer program;
- at the beginning of the subsequent school year; and,
- at the end of the subsequent school year.

If the data at this last point fails to indicate gains, the entire concept is faulty (Edgar, Spence and Kenowitz; 1977 p. 24 - 25). This last point is considered a critical variable.

2. Reducing Need for Extended Year Program

Larsen, Goodman and Glean (1981) make three interesting suggestions about reducing the need for extended year programs and the promotion of skill maintenance. Their suggestions are as follows:

a) An emphasis on functional skills useful to students in their natural environment, skills intrinsically reinforced in that environment, in programming, in general.

b) Skill maintenance activities as an integral part of the skill acquisition program during the regular school year.

c. Active involvement of parents in maintenance activities as a part of their daily routine.

Of these suggestions, the second seems most important to keep in mind to reduce the need for extended year programs. Even with such efforts, some children will undoubtly require such programs. It might be suggested that extended year programs become even more essential when the school year program is centered on behavioral management techniques.

FINAL COMMENTS

The research literature is inconclusive in its support of summer programs for dependent and sensory multi-handicapped students. Few American or Canadian programs have undergone formal evaluation and of those that have, variables such as kinds of children served, length of program, objectives of the program and expertise of staff have been neglected.

The summer of 1982 saw over 550 dependent and sensory multi-handicapped students involved in summer programs in Alberta.

The majority of these students were in programs sponsored by Alberta Recreation and Parks. The focus of these programs was integration of the child into the community. A question of how educational needs can best be met must not be overlooked. A systematic solution is required. Some suggestions which might be part of such a solution include the following:

1. That there be agreement and co-operation regarding the objectives for summer programs for severely multihandicapped among the various governmental agencies involved.

2. That there be a formal study of the questions of regression, recovery and effectiveness as outlined in the introduction of this report.

3. That this study take into account as many of the suggestions gathered from the literature as practically feasible.

4. That such a study attempt to look at a variety of summer programs within the province ... both ones intended for summer and ones functioning on a continuous basis as well as those with either a recreational or educational focus.

5. That as a step in such a study there be on-site observation of selected existing summer programs within the province.

6. That the results of such a study act as a factor in future decisions in the area of summer programming for the severe and multihandicapped.

RECOMMENDATION FOR FUTURE ACTION

Based on the lack of specific information as revealed in this survey, it is recommended that Alberta Education fund the Elves Memorial Child Development Centre for the summer 1983 program and that Alberta Education mount a substantial research project through the Planning and Evaluation Division to evaluate the impact of summer programming on dependent and sensory multihandicapped children and pupils in a number of selected programs throughout Alberta.

AN ANNOTATED BIBLIOGRAPHY

Evaluations of Summer Programs in the Literature

ALLARD, W. Gregory and Others
"Helping Teachers Work With 'Unteachable Children'," Children Today, v4, N5, pages 15 - 16, September/October 1975.

A summer workshop involving 24 handicapped children (including emotional and physical) ranging in age from 4 to 17 years of age, was designed to demonstrate the fact that severely handicapped children can be educated. Based on each child's needs, a program of half-hour individual training periods (teaching children such behaviors as sitting up or tying shoes) was developed, using the behavior task analysis model and techniques such as positive reinforcement. A largely descriptive anecdoctal article, this paper does not attempt to be empirical.

BAKEN, Joan Wald
"Inservice Teacher Training in a Summer Program for Severely Handicapped Children: A Summer Can Make The Difference," Rehabilitation Literature, v37, N3, pages 74 - 77, March 1976.

In three years the Easter Seal Summer Special Education Program at Teachers College, Columbia University, has provided individualized instruction and recreation programming to 40 severely and multiply handicapped children (3 - 18 years old) and inservice training to 75 teachers and 20 speech pathology students. This account is largely of a descriptive nature. As Baken says herself, the effects on teachers and children have yet to be empirically tested.

ELLIS, Ronald S.
Summer Pre-Placement Program for Severely Handicapped Blind Children. Summer 1975, Evaluation Report, New York City Board of Education, Brooklyn, N.Y. Office of Educational Evaluation, 1975, 27 pages.

Evaluated was the Summer Pre-Placement Program for Severely Multi-handicapped Blind Children designed to provide individualized programs for improving the performance of 16 children (4 to 11 years old) in the following areas: Communication skills, vision training, psychomotor and perceptual training, social development, ambulation, self dependence, self awareness, and awareness of others. Findings showed no child decreased in terms of the areas under consideration.

ELLIS, Ronald S.
Summer Education Program for Neurologically and Physically Handicapped Children. Summer 1975, Evaluation Report, New York City Board of Education, Brooklyn, N.Y. Office of Educational Evaluation, 1975, 35 pages.

Evaluated was the Summer Education Program for Neurologically and Physically Handicapped Children designed to improve the performance of 145 children (6 - 16 years old) in the following areas ... gross motor skills, swimming, fine motor skills, socialization with non-handicapped peers, and independent living skills. Findings indicated that the program met its objectives of demonstrating a statistically significant improvement of its participants in program skill areas.

WOLPERT, Rhona; LEUCHTER, Sharon and SCHMIDT, Margaret
"Summer Day Camp for Multihandicapped Children," Physical Therapy, v56, N3, March 1976, pages 299-304.

A six-week enriched sensory motor, communication, and recreational summer day camp for 20 multihandicapped pre-school children is described. The program planned and supervised by therapists and mental retardation counsellors, provided training for students who worked as camp counsellors. The improvement in the children was measured by the Functional Skills Profile (FSP), an assessment battery designed to measure performance changes in low functioning developmentally handicapped persons. The results reported indicated positive change occurred to some degree for most individuals.

A 1966 Summer Program for Children with Physical, Multiple and Mental Handicaps, June 22, 1966 - August 17, 1966. Program Evaluation Milwaukee Public Schools, Wisconsin, 1966, 39 pages.

This summer program for handicapped children was designed to meet the special needs of these children for socialization and better use of leisure time and to provide data which would enable the Division of Municipal Recreation and Adult Education of the Milwaukee Public School to plan future programs. Both the mentally handicapped children's program (54 participants) and the program for physically or multiply handicapped (51 participants) consisted of games, drafts, musical activities and field trips. The study used staff and parent ratings as well as student self-reports as means of program evaluation.

BIBLIOGRAPHY

Alberta Education (Planning and Research Branch).
Multisensory Handicapped Program Planning Project Team. Finnestad, Harvey and McLeod, Heleen J. *Sensory Multihandicapped Program Planning Project.* 1979, 2v.

Allward, W. Gregory and Others.
"Helping Teacherw Work with 'Unteachable Children". *Children Today*, 1975, vol. 4(5), 15-16.

Armstrong vs. Kline.
476 F. Supp. 583 (E.D. Pa. 1976).

Barton, Carolyn.
"Summer Intervention Program for Hearing and Visually Impaired Children in Northern Alberta: Report". C.A.P.E. program, November 23, 1982, 5 p. (unpublished manuscript).

Barton, Lyle.
"Summer Intervention Program for Sensory Multihandicapped Students: Summary Report". C.A.P.E. Programmer, August 23, 1982, 13 p. (unpublished manuscript).

Battle vs. Commonwealth
79-2158, 79-2188-90, 79-2568-70 (3rd Cir., July 18, 1980).

Edgar, Eugene; Spence, Wayne; and Kenowitz, Leonard.
"Extended School Year for the Handicapped: It is Working?" *The Journal of Special Education*, 1977, vol. II(4), 441-447.

Ellis, Ronald S.
Summer Pre-Placement Program for Severely Multihandicapped Blind Children. *Summer 1975*. *Evaluation Report*, New York City Board of Education, 1975^{a}, 27 p.

Ellis, Ronald S.
Summer Education Program for Neurologically and Physically Handicapped Children. *Summer 1975 Evaluation Report*, New York City Board of Education, 1975^{b}, 35 p. ERIC Document Reproduction Services No. ED136489.

Keyko, Terry.
"Guidelines for Applicants: Recreation for the Disabled Financial Assistance Program, 1982. Alberta Recreation and Parks, Recreation Services to Special Groups Section, 1982, 9 p. (unpublished manuscript).

Keyko, Terry.
"Guidelines for Applicants: Recreation for the Disabled Financial Assistance Program, 1983-1984". Alberta Recreation and Parks, Recreation services to Special Groups Section, 1983, 7 p. (unpublished manuscript)

Larsen, Larry; Goodman, Libby; and Glean, Richard.
"Issues in the Implementation of Extended School Year Programs for Handicapped Students". Journal of Exceptional Children, 1981, vol. 47(4), 256-263.

Lord, John.
Participation: Expanding Community and Leisure Experiences for People with Severe Handicaps. National Institute for Mental Retardation, 1981, 75 p.

Stotland, Janet and Mancuso, Ellen.
"U.S. Court of Appeals Decision Regarding Armstrong vs. Kline: The 180 Day Rule". Journal of Exceptional Children, 1981, vol. 47(4), p. 266-270.

Wolfensberger, Wolf.
The Principles of Normalization in Human Services. Toronto: National Institute on Mental Retardation, 1972, 258 p.

Wolpert, Rhona; Leuchter, Sharon; and Schmidt, Margaret.
"Summer Day Camp for Multihandicapped Children". Physical Therapy, 1976, vol. 56(3), pages 299-304.

Appendix B

Instruments

Inappropriate Behaviors Observation Checklist
Skills Regression, Retention, Improvement Checklist
Summer Programs: General Information
Summer Programs: Interaction Observation Schedule
Summer Programs: Parent Questionnaire
Summer Programs: Staff Questionnaire

INAPPROPRIATE BEHAVIORS OBSERVATION CHECKLIST

NAME ____________________ SCHOOL ________________ DATE ________

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PASSIVE	Non-attentiveness															
	Non-cooperation															
	Blank expression															
	Bizarre posture															
ACTIVE	Noises															
	Fidgeting															
	Aimless moving															
	Temper/hyperventilation															
SELF-ABUSIVE	Head banging															
	Biting self															
	Striking self															
	pulling hair, ears															
PERSONAL	undressing															
	mouthing															
	drooling															
	grinding															
	tonguing															
REPETITIVE	head movement															
	hand movement															
	limb movement															
	body movement															
	stimulation with hand															
INTERPERSON	annoyance															
	abusive															
	physical contact															

SKILLS REGRESSION, RETENTION, IMPROVEMENT

NAME OF CHILD ________________ SCHOOL ____________ DATE ______

Please indicate what has happened to the child's skills since June. If you wish to differentiate between various aspects of any skill area, please do so in the space provided. Indicate when an area is not applicable, as for example, if a child cannot work in that area because of disability. Use a separate sheet for each child.

	NOT APPLY	MUCH LOSS	SOME LOSS	RETAINED	SOME GAIN	MUCH GAIN	INDEPENDENT FUNCTIONING
GROSS MOTOR							
FINE MOTOR							
COGNITIVE							
EATING SELF-HELP							
TOILETING SELF-HELP							
DRESSING SELF-HELP							
RECEPTIVE COMMUNICATION							
EXPRESSIVE COMMUNICATION							
SOCIAL INTERACTION							
CLASSROOM BEHAVIOR							

SUMMER PROGRAMS FOR SEVERELY HANDICAPPED: GENERAL INFORMATION

Location ______________ Contact _______________ Length _______ weeks

Observed on (dates) __________________ at (hours) ____________________

I. PROGRAM

1. Orientation (%)

--- educational

--- recreational

--- other

2. Integration

--- physical facility only

--- a few activities

--- most/all activities

3. Length

--- 1/2 day

--- full day

--- other (Describe)

4. Content

--- structured teaching

--- teaching through play

--- free activities

--- field trips/camping

--- basic/self care

--- music, art, crafts

--- other (List)

5. Objectives (List briefly)

II. FACILITY

6. Location

--- school

--- rec centre

--- outdoors

7. Appropriateness

--- wheelchair access

--- toilet facilities

--- other (Specify)

8. Rain facility

--- none
--- barely adequate
--- good

9. Materials and Equipment

--- insufficient/unavailable
--- sufficient/available
--- wide range, high quality

III. STAFFING

10. Child-staff Ratio(#'s)

--- for severely handicapped
--- for other handicapped
--- for non-handicapped

11. Numbers of Staff

M	E	
---	---	administrators
---	---	rec or teachers
---	---	college students
---	---	volunteers
---	---	specialists

12. Parent Involvement

--- occasional visits
--- frequent visits
--- part-time helpers
--- full time helpers

IV. CHILD PARTICIPANTS

13. Age (all in # & %)

M	E	
---	---	2 1/2 to 4
---	---	5 to 6
---	---	7 to 9
---	---	10 to 12
---	---	13 to 15
---	---	16 to 18

14. Type of Participant

M	E	
---	---	severely handicapped
---	---	other handicapped
---	---	non-handicapped

15. Living Accomodation for Severely Handicapped (#)

--- own home

--- group home

--- institution (size)

V. ACTIVITIES OBSERVED

16. Setting (%)

--- classroom

--- gym

--- pool

--- outdoors

--- bathroom

--- therapy area

--- other

17. Type (%)

--- structured teaching

--- teaching through play

--- listening

--- music, arts, crafts

--- free, unstructured time

--- individual/group play

--- self/basic care

--- other

18. Methods (%)

--- verbal/nonverbal teaching

--- verbal/nonverbal with physical assist

--- physical assist only

--- other

19. Child Interaction Level (%)

--- inner directed

--- positive responses

--- negative responses

--- initiating activities

--- other

20. Staff Interaction Level (%)

--- setting oriented

--- basic care

--- outer non-instructional

--- outer direct instructional

--- positive reinforcement

--- negative reinforcement

INTERACTION OBSERVATION SCHEDULE: SUMMER PROGRAMS

Location ______________ Date and time observed ______________
Setting
Type of activity
Instructional method

OBSERVATION OF CHILDREN

Age/sex of child
Handicap condition
Level of involvement

INNER DIRECTED ACTIVITY

21. Inactive, asleep
22. Self-stimulation
23. Self-care

OUTER DIRECTED RESPONSES

24. Smile, cry, listen, watch, wait
25. Read or play with toys/others
26. Destructive/aggressive
27. Reject/withdraw

INSTRUCTIONAL RESPONSES

28. Begin response
29. Continue/complete response
30. Stop response before completed
31. Accept manipulation
32. Resist response and manipulation

INDEPENDENT INITATION

33. Approach, initiate, question
34. Participate in groups
35. Independent work/play

STAFF OBSERVATION

SETTING ORIENTED ACTIVITY

36. Talk with adults
37. Prep material, food, reports
38. Basic care
39. Discuss children in presence

OUTER DIRECTED ACTIVITY

40. Supervise presence
41. Read story, present material
42. Organize activities
43. Play/comverse with children

INSTRUCTIONAL ACTIVITY

44. Verbal instruction/question
45. Non-verbal instruction/question
46. Verbal + physical assist
47. Nonverbal + physical assist
48. Physical assist only

REINFORCEMENT

49. Positive: verbal/nonverbal
50. Negative: restrain/scold

1983 SUMMER PROGRAMS FOR HANDICAPPED CHILDREN SUMMER STAFF QUESTIONNAIRE

KINDLY RESPOND TO THE FOLLOWING QUESTIONS. AS A STAFF MEMBER, YOUR RESPONSES WILL BE OF GREAT VALUE IN FUTURE PROGRAM PLANNING.

Location ____________ Length of program ________ Your role in it ________________

PLEASE CIRCLE YOUR CHOICES: SD-Strongly disagree D-Disagree N-Neutral
SA-Strongly agree A-Agree

1. Summer programs for handicapped children are unnecessary. 1) SD D N A SA
2. The children's behavior has improved during the summer. 2) SD D N A SA
3. The children's skills have improved during the summer. 3) SD D N A SA
4. There was too little involvement with parents/group homes. 4) SD D N A SA
5. The program planning was not carried out early enough. 5) SD D N A SA
6. I would like to work in a summer program in the future. 6) SD D N A SA
7. This summer's program was too short. 7) SD D N A SA
8. This summer's program was well organized. 8) SD D N A SA
9. For a handicapped child, the day was too long. 9) SD D N A SA
10. For a handicapped child, the program was too demanding. 10) SD D N A SA
11. There should be more emphasis on skills and behavior. 11) SD D N A SA
12. There should be more integration with non-handicapped. 12) SD D N A SA
13. These children would have benefited as much by staying home. 13) SD D N A SA
14. I would recommend this program for other handicapped children. 14) SD D N A SA
15. Staff preparation prior to the program was inadequate. 15) SD D N A SA
16. When problems or questions arose, there was no one to help. 16) SD D N A SA
17. Too much time was spent on organizational and paper tasks. 17) SD D N A SA
18. What I liked best in the program was ________________________________
19. What I liked least in the program was ________________________________
20. Areas that created problems in the program were ________________________
21. Were the objectives of your summer program realized? _____ Explain ____________

____

PLEASE ADD ANY FURTHER COMMENTS OR SUGGESTIONS

I am: --- administrator/clerical
--- teacher
--- recreation personnel
--- college student
--- specialist ________
--- other ____________

Date ______________

1983 SUMMER PROGRAMS FOR HANDICAPPED CHILDREN PARENT QUESTIONNAIRE

KINDLY RESPOND TO THE FOLLOWING QUESTIONS. AS A PARENT, YOUR RESPONSES WILL BE OF GREAT VALUE IN FUTURE PROGRAM PLANNING. EVEN IF YOUR CHILD DID NOT ATTEND A SUMMER PROGRAM, PLEASE ANSWER QUESTIONS WHICH ARE APPLICABLE.

Did your child attend a summer program? ____ Where? ______________ for how long? _______

If not, why not? ____

If not, what did s/he do during the summer? ______________________________

Please CIRCLE YOUR CHOICES TO THE FOLLOWING: SD-Strongly disagree D-Disagree N-Neutral SA-Strongly agree A-Agree

1. Summer programs for handicapped children are unnecessary.	1)	SD	D	N	A	SA
2. My child's behaviour has improved during the summer.	2)	SD	D	N	A	SA
3. My child's skills have improved during the summer.	3)	SD	D	N	A	SA
4. Friends and relatives have noticed my child's improvement.	4)	SD	D	N	A	SA
5. I did not have information about the program early enough.	5)	SD	D	N	A	SA
6. I want my child in a summer program in the future.	6)	SD	D	N	A	SA
7. This summer's program was too short.	7)	SD	D	N	A	SA
8. This summer's program was well organized.	8)	SD	D	N	A	SA
9. For my child the day was too long.	9)	SD	D	N	A	SA
10. For my child the program was too demanding.	10)	SD	D	N	A	SA
11. There should be more emphasis on skills and behaviour.	11)	SD	D	N	A	SA
12. There should be more integration with non-handicapped.	12)	SD	D	N	A	SA
13. My child would have benefited as much by staying home.	13)	SD	D	N	A	SA
14. I would recommend this program for other handicapped children.	14)	SD	D	N	A	SA
15. The staff were competent in programming for handicapped.	15)	SD	D	N	A	SA
16. When I had questions or problems, the staff were not helpful.	16)	SD	D	N	A	SA
17. Too much time was spent on organizational and paper tasks.	17)	SD	D	N	A	SA

18. What I liked best about the program was ________________________________

19. What I like least about the program was ________________________________

20. Areas that created problems in relation to the program were ____________________

PLEASE FEEL FREE TO ADD ANY FURTHER COMMENTS OR SUGGESTIONS.

Date ______________

I am: --- parent/foster parent
--- group home staff
--- other ____________

Appendix C

Correspondence

To school jurisdictions: May, 1983

To parents: May, 1983

To school jurisdictions: February, 1984

To parents: February, 1984

Parental Permission

Permission is hereby granted for observations of activities of my child to be recorded in connection with the evaluation of summer programs for the handicapped. I also agree to provide information as aparent if assistance is requested.

Signed ______________________________(parent or guardian)

Name of Child ____

Date ____

Is your child participating in a summer program? _________

If so, where? _________________ For how long? _________

If not, why not? ____

If not, what will he/she be doing this summer? ____________

____

WE WOULD BE MOST GRATEFUL IF YOU COULD PLEASE RETURN THIS FORM TO YOUR CHILD'S SCHOOL TOMORROW.

Dear :

SUMMER PROGRAMS FOR SEVERELY HANDICAPPED PUPILS

Enclosed is a copy of the report on the evaluation of summer programs for severely handicapped pupils. The information was gathered during the spring, summer and early fall of 1983. You will note that definite differences in effects on children were observed among the different types of programs.

A follow-up study has been commissioned to determine if differences among types of programs observed at the end of the summer are retained over time. If the benefits attributable to summer programs are shown to persist, guidance will be provided to all agencies responsible for providing service. Specialists in this area of special education recommend strongly that follow-up investigations are needed to establish the degree to which benefits are retained.

We seek your permission and cooperation in conducting the follow-up study in those schools enrolling pupils who were identified in the previous study. The same group of researchers responsible for the evaluation of summer programs would observe and record certain behaviors as they occur in classroom settings. No testing of individual pupils is planned. As with the summer investigation, the anonymity of staff, children and school would be preserved.

Dr. Louise Zdunich will continue as principal investigator. She will communicate soon with the schools enrolling pupils who were subjects for the investigation of short-term impacts, either as a registrant in a summer program or as part of the control group.

. . . /2

If you require further information about the follow-up study please contact:

Dr. Clarence Rhodes
Planning Services Branch
9th Floor, Devonian Building
11160 Jasper Avenue
EDMONTON, Alberta
T5K OL2

PHONE: 427-8216

The Planning Services Branch is coordinating the follow-up study. Please respond to Dr. Rhodes concerning this request for permission to continue the study in your schools.

Thank you.

Yours truly,

Heleen McLeod
Director
Special Education Services Branch

HMc/ead

Enclosure

cc: principals of
participating
schools

Alberta
EDUCATION

Devonian Building, West Tower, 11160 Jasper Avenue, Edmonton, Alberta, Canada T5K 0L2

February 15, 1984

Dear Parents:

Re: Evaluation of Summer Programs for the Handicapped

We are grateful for your cooperation in allowing your children to participate in the study of summer programs for the handicapped which the Department of Education of the Provincial Government conducted in 1983. Because the study revealed the benefits of summer programs, we are prepared, at this time, to examine their long-term benefits.

Therefore if your children were part of the initial phase of this study, we need to observe them in the classroom situation again for this final phase. However, if your children did not participate in the earlier part of the study, they will not be included presently. As before, there will be no individual testing of children.

All information collected will remain confidential. Your children will not be identified in any way in any of the reports.

Thank you again for your assistance in this study for the benefit of handicapped children.

Yours sincerely,

H. C. Rhodes

H. C. Rhodes
Educational Consultant
Planning Services

Appendix D

Parent and Staff Questionnaire:
Comments to Open-ended Items

Comments to Open-ended Questionnaire Items

For the most part, comments in this section are verbatim. In some cases, punctuation or a word has been added to clarify meaning. In addition, names of towns, individuals and organizations have been omitted, as have references to people or activities outside the scope of this study.

The open-ended item responses could be classified as supportive or critical of programs. They are therefore reported in these two broad categories. Comments are grouped by program types and by parent and staff responses. Comments are listed separately whenever they appear to add a different shade of emphasis to other comments.

What I liked best about the program was ---

Were objectives of your summer program realized? Explain.

High Structure Programs: Staff Comments

organization and interstaff communication

had educational plans to implement, all laid out

always answers offered to questions

the ability to work independently and still receive supervision when needed

cooperation between staff members

the dedication of staff and neat group of kids close contact with students

the structured behavioral and educational approach

structured data based apparoach

observing the application and results of A.B.A.

2 to 1 ratio, intensity of programming

low student/teacher ratio and working with the same children

emphasis on decreasing the children's maladaptive behaviors

We are seeing progress already.

children's maladaptive behaviors decreasing resulting in educational programs increasing - 2

Problem behaviors decreased, educational goals were met.

Behaviors went down - 3.

seeing direct results of hard work

The goals that were set were accomplished.

was able to adjust it to present needs

the learning experience

I fulfilled my own expectations toward training as well as assisted in research interests.

High Structure Programs: Parent Comments

We were much happier with the school-based location as opposed to the home setting of previous years and so was our son.

a happy atmosphere

staff

The staff was super.

Staff seemed quite competent.

willingness and dedication of staff involved

staff willingness to help and open-mindedness good communication with the group home

continuation and expansion of the programming done during the school year

the intensity of programming

teacher/student ratio - 2

small group, very hard to try to get some result

proper school hours, focus on behaviors - 2

that the emphasis was on skills and behaviors

emphasis on behavior

attention shown to my child and also working on his behavior problem

intensive speech therapy - 2

They were concerned about her hearing and speech.

that it allowed my child to show his abilities

My child's interest level and skills were maintained during the summer.

the overall improvement of my child's abilities

variety of stimulation our child was exposed to

the results and the enjoyment and enthusiasm our child showed in the program

the enjoyment my child got out of it

It made my child happy.

pleased with the program

I do like the program but I cannot say exactly what I like best.

I would say that every parent of a handicapped child would want to have the highest models possible at least part of the time; therefore, we feel both (integration and skill-behavior emphasis) are important.

Medium Structure Programs: Staff Comments

The program was organized for the enjoyment of the children rather than the staff.

the freedom to make classroom lesson plans unique to our children's needs

independence for individual classroom planning of events

the flexibility and independence - 2

the unstructured approach

the preparation spent on the 1/2 hour instruction

individual programs and instruction - 2

the activities to benefit the child I worked with, he enjoyed them

the diversity in program - well planned

being a continuation of our current September-June program

was able to maintain or improve on skills acquired during the year

The children maintained the skills that they had been working on throughout the year.

We worked on children's skills needed for independent living in the future.

to provide a good atmosphere for the children and to improve their learning skills

to improve the child's well being, self-awareness and to provide an atmosphere for learning and development

children's skills and cooperation improved

There were some gains, even if they were small.

We saw improvement in the children.

the improvements children were able to make

The children have all advanced in many developmental areas.

the flexibility to allow for recreation/leisure activities while maintaining the child's skills and regular year's tasks the integration, upgrading of skills and behavior and enjoyment attained

Kids had fun and continued to work on various behavioral skills.

free and relaxing atmosphere, children allowed to grow independently

Learning took place the fun way.

Children had fun as well as learning.

Our objective was to learn through play and we did.

facilitated growth in socialization and parallel play

means of communication with other children

It was a relaxed and recreational time for the kids.

children's enjoyment of activities

being able to do the things the kids enjoyed and not just programs they had to do

The children were all offered a variety of new experiences and had a lot of fun.

interesting and fun-structured events

The kids seemed to have fun and experience new things.

that the children had a learning experience but had fun too

Children had fun and either maintained skills or learned new skills.

We did provide recreation and prevent skills from deteriorating.

the variety of experiences, e.g., field trips, special events

planned field trips, variety and number

the field trips and recreational activities - 3

at trips the emphasis on play

outings - 2

swimming - 3

special event days, outings

children's awareness and their reaction which showed they enjoyed outings

The idea was to get the children out and doing things through the summer.

The program was to get the children out in the community and have fun.

We did a bit of community-recreational things that we don't normally do during the school year.

Children enjoyed a more relaxed and less structured program and were exposed to many "out of" school experiences.

the opportunity for handicapped children to be in the community and the community's ability to accept them

community awareness

integration of the classroom as they worked and played together

integration between non-handicapped and handicapped - 3

that we are starting to have disabled kids integrated

Integration took place, handicapped children got a chance to participate with other children.

The adaptability of the program to both the handicapped and the non-handicapped, suitable for both.

The program was modified according to children's needs.

Throughout the program our objectives changed as the needs of the children changed.

Children had opportunity to visit places which they hadn't gone to.

that handicapped children had the opportunity to go places and do things that they might not do elsewhere

being able to take the children to places they may never have seen before

the warmth and caring for the children by the staff

provided relief for parents and "fun" program for children

They had fun in the program.

Both children and families benefited from the program.

The program had only positive effects.

enjoyed everything

liked all of it

I felt it was a very worthwhile program.

the challenge and experience

all the new things I learned

more exposure to different disabilities

contact with children and professionals---I had the contact I wanted

challenge of working with them

the small accomplishments, e.g. when child learns a game or a craft

the children and the events

working with the children - 2

It was a very good program and I enjoyed being a part of it. The staff and children were just excellent. I learned very much from my position, and as such, one program had much meaning for me.

Primarily it was a recreation program and that is what the children received.

Some kids skills and behaviors seemed to have improved but we weren't keeping data so it is not a very valid statement.

I feel we have fulfilled all of our objectives and goals by providing a summer educational and recreational program for severely handicapped children who did not have a summer program to attend.

Some goals have been reached, some still will be reached and others won't be reached this summer.

We knew he would have to attain a civilized status in society, so we went for it. We are the ones to make him independent. Great kid!

Medium Structure Programs: Parent Comments

It was well organized. - 3

Thank you very much to the staff of the handicapped program. -2

the staff and their attitude!

the helpful staff

his (staff member) attitude and helpfulness

People (staff) really cared about her and she knew it.

Staff took time to teach the children.

Staff's ability to work with each individual

Staff was willing to continue and aid in programs set up on unit at home.

Staff would come and pick kids up for outings.

Communication was kept.

The program provided continuity with regular class.

the continuation of the use of previously learned skills

the opportunity for my child to carry on what he had learned during the school year and not regress during the summer

My son does not regress in his learning abilities as he would if he had a long break in the summer.

Child didn't regress because of holidays.

my child's improvement - 2

This program helped us and the children tremendously as it helped maintain skills learned at home and at school; without it I feel she would have regressed and all our previous work lost. I am very happy with everything.

I feel handicapped kids tend to forget things so the summer program is very helpful this way as it keeps their brain active at all times.

It enabled my child to have continuity for his skills and his interaction with other children increased.

She liked the attention and company.

The summer program helps my son cope with the everyday situation.

This program was particularly suitable for my child who is totally dependent and has severe physical handicaps.

a chance for these children to visit the city parks and other recreation areas

going to public places

community outings

integration with the non-handicapped

keeps the kids active and stimulated

keeps her active and motivates her

very stimulating for the children

gave the child field trips and kept them busy

lots of activities to keep her occupied - 2

variety of activities

lots of outings for children - 3

many outings and tactile experiences

that she was outside a lot more than if she was home

the outdoor activities - 2

recreational events

swimming - 3

My child experienced normal summer activities such as eating popsicles in the sun, as well as a balanced program, also field trips.

It was a fun time for the kids, yet a learning one as well.

that my child had something to do

that my son learned more and I had more free time

I appreciate the program, the way it is handled now.

I can't think of anything better; thank you for taking care of our children.

feeling comfortable about bringing my other children and participating

liked everything, can't think of anything I didn't like - 4

no complaints at all, no criticism - 3

Everything was fine. - 2

The program is very good.

program was excellent; no dislikes whatsoever

nothing, no problems - 7

It was just a super program which I sincerely hope will continue in the future.

This is the best summer playskills program they've had. Don't know what we would do without it. It was planned well and transportation was good to and from program.

Without a program my son would have no social contacts. Besides he needs daily challenge just to slow deterioration. With a deteriorating condition, he can never improve but must fight to hold plateaus and summer school helps immeasurably.

They (the staff) couldn't do any more or any better than they are doing. They're really working hard at everything they're doing. I'd recommend them any time as they are doing a marvellous job. Thanks a million for what you are doing for my child; it's just great to see the improvement in him. Keep up the good work everyone.

Staff that were involved with our children (from institutional setting) were understanding and patient. Good work!! Child was content on return also.

It filled part of the summer for my child; he would get very bored with me for the full two months. We will enjoy the holidays very much now that he has enjoyed the summer program. I will be able to amuse him for the rest of the time.

I am very pleased with the entire school program and the summer program at ---- for my child. All the staff have been just terrific in answering my questions and in their interaction with me as a parent.

He was and has become a very happy and skillful boy over the summer. He seems really happhy!

The summer programs for handicapped children are also very important because they provide parental_relief sometimes making the difference between the parents being able to cope or having the child institutionalized. There are no other suppport services provided.

Low Stucture Programs: Staff Comments

the cooperation from supervisors and parents

Our department hired a young person from the town's vocational development program this year as an assistant leader and it worked out very positively for everyone involved.

The program was very flexible.

the happy atmosphere to which the children were exposed

The relaxed, fun recreational environment in which the children are able to have fun as every child should have.

Theme was summer fun and we all realized the goal was for the kids to have fun and learn at the same time.

The kids have had fun and have learned and benefited from this program.

I feel my objectives were realized in that most of the children who entered the program felt a sense of belonging. They were there to have fun and learn something which I feel they have done. Also in one or two cases the children gained confidence in themselves. They were proud of the things they were able to make and do and in some cases they surprised themselves.

fun and enjoyable, seeing the kids have fun

the children and staff

working with the children - 2

working with the children on a one-to-one

helping children with their creativity

teaching the kids new things

the children and a feeling of accomplishment

the activities, integration, sing-songs, free play, walks

the time spent doing sing-alongs and special exercising

the crafts were fun and challenging for the kids water sessions

variety of activities - 4

We got the children involved with playing with each other instead of with toys or staff, one on one.

the opportunity to experience new activities and socialize with the other children

Our objectives of personal and social skills were well met.

the kids getting involved

Creation of a recreational and yet challenging program was established.

its recreational nature, created lots of recreation for the children - 4

provide and participate in recreation activities for disabled children

taking the kids on outings, they showed great interest in it - 2

The one-to-one individual work I did with the kids.

We have provided our children with various recreational activities in school and in community in which they have experienced new things, as well as attempting to carry out maintenance programs, i.e., self-help and socialization, to improve basic skills.

The children really benefit from a program such as this because without it they have no follow-through for three months for what they have been learning at school all year. Also it gives them the opportunity to learn how to play with each other in a smaller group atmosphere. I think it's great!

The planned field trips were a change and something new for the children - 2.

I think the field trips offered something exciting for the children to look forward to; the more field trips, the better

Most of these children would not have had the opportunity otherwise to see and do many of the things provided in field trips.

The type of activities organized strongly depend on the level or type of handicaps present in the program. As it was, we didn't have any physical disabilities so we were able to organize many outdoor activities.

The program emphasized activities within the community rather than separated from the community.

We were successful with integration and providing a good time for the kids and the parents recognized this.

Integration was mainly stressed and in my opinion, the two playgrounds were integrated closely together.

The regular playground integrated with our kids very well; they understood the child's problem more so than some of the adults.

The handicapped kids for the most part were accepted by other kids and seemed to get more involved as program continued.

It was integrated and the persons with disabilities complimented the program such that there were no obvious differences in their abilities while participating. There was no thought of developing programs strictly for our own special needs individuals.

Our program was totally integrated this year and due to the wide range of learning disabilities it is very hard to judge the program based on a general analysis such as this one. Each individual encountered a different degree of success in their personal development and we analyze the success according to those individuals separately.

integration with children and how well it went - 2

integration was the objective and the way it was realized and accepted - 4

acceptance of handicapped children by others

involving and teaching other kids to accept handicapped

Other children realized everybody is the same. They all had fun.

the integration aspect normal mixed with special

integrated much more than 25% which was our goal - 4

objective: to increase the degree of community integration of young people - 2

Our objectives were to make the normal population aware of the handicapped and to provide a new atmosphere for the handicapped.

The fact that all children both handicapped and non-handicapped were treated the same in most cases.

the interaction between the children

children given an equal opportunity to participate

The program was beneficial to all involved.

my own learning experience

the experience of being with the children and doing things with them - 2

becoming comfortable with handicapped children

getting to know the children and trying to understand them - 3

getting involved with the handicapped

I am definitely for summer recreational programs. I think everyone benefits from them, the parents, children and staff.

I think the children obviously benefited.

I feel the parents should be considered as well. These programs not only give the students special experiences but the parents are freed of their concern for their child for the day. In a society the well being of both the student and parents should be considered. Thus, home problems that affect us all may be avoided.

I think that a program such as this is very necessary for the well being of both the child and the family of the child.

We did everything we had planned even though he was sick part of the summer. We had a good summer.

Everything went great.

I didn't dislike anything; no serious problems arose. - 3

My objectives changed: was idealistic before starting but once I realized capabilities became more realistic; first objectives weren't realized.

This year was the initiation of our program and we were simply looking for some indication that our promotions combined with following through on our program promises would reach our special needs community and give us some idea of the direction we should go in the future.

Low Structure Programs: Parent Comments

the attitudes and eagerness of staff

Staff seemed genuinely interested and caring.

interest shown in the child.

The staff was caring and brought a special freshness for clients.

Staff who ran the programs were excellent.

The staff were really good and cared about their job.

cooperation

the friendly staff

The students hired did a very fine job.

personal attention the child received

my child's enthusiasm

how happy the children were upon arriving home

My children were involved and not cast aside.

My child had something to look forward to every day and didn't have to spend it alone.

We feel that our child profits from these programs. He would have been very bored through the summer without the program as there are no children his age for him to play with.

It kept my child busy so he did not get bored.

lots of varied activities and outings - 4

the number of outings my child went on

chance for the children to participate in field trips

socializing for my child

The children enjoyed being able to play with and just generally be around other kids like themselves. My child enjoyed himself a lot.

He was treated just like everyone else socially. Behavior was more firm due to my request.

They gave the children a wide range of enjoyable recreation.

recreation

the hours of swimming for the children

being outdoors and playing games

Camp is for fun and not learning skills.

The fact that the children were kept in programs with skills such as toileting and feeding on a continuing basis from the regular school year. This was done in a very relaxed atmosphere with a great deal of recreation surrounding it. These kids find it difficult to enjoy winter outings in wheel chairs but in the summer opportunities surround us to take them on various field trips to parks and playgrounds. Every new experience is a learning one for these children, be it a trip to the zoo or a walk around a park.

My child's handicap is such that any progress or improvement is slow and over a longer period of time than summer. But a summer program which gives him a good variety of recreational experiences is certainly worthwhile and necessary. The worth of a summer program to an individual shouldn't be measured by specific progress only. It is a very worthwhile program for my child.

My little girl was very withdrawn, especially in a large group but after attending the summer program, she is running, laughing and in general has "loosened up" and is having a ball. She has carried this attitude over into her behavior in the community and we feel it will be a tremendous help to her during the school year.

the utilization of generic resources and integration into the community

keeps him involved in community activities INTEGRATED with other children; improves learning skills

integration in the town's recreation

integration with non-handicapped

that my child was out with non-handicapped children

All was fine.

proximity to home

When a program for handicapped children is put into effect, it is vitally important that the staff should have patience, eagerness to learn about the children in their charge and a large amount of enthusiasm for what should be well planned activities. Most of the staff's time and energy should be spent productively with the children. The staff should also be working together as a team for the benefit of the children. It's nice to have a well run operation such as this summer program. The attitude of the staff and the general atmosphere of the program is terribly important as these children must be happy and feeliong secure to respond well to their program.

I have been grateful to the summer program for the handicapped. I'm really concerned that something is in the wind to have the program scrapped. My child lives at home and not in residence and really needs to get away from us during the long summer days.

This year's program which was excellent came about by accident because one parent pushed and pushed for it. It was a great success for a first. There were some shortcomings but as parents we were very pleased with the program and its leaders. Next year's should prove much better with the one year's experience. It was a good carry-over from school and our special ed programs. Please continue this special grant; it's worth it and more. Let's hope that next year, it's fully integrated.

Short Programs: Staff Comments

enthusiasm of staff

Due to our source of funding, we were not restricted to the hiring of staff. We were able to obtain people who work with the children during the regular school year and are therefore able to meet the basic needs of the children (i.e., feeding, changing) so that they are able to function better with the learning part of their day.

Some of the parents were very helpful and cooperative.

A structured schedule was set up before the summer program began and each child and every staff had a place to be at all times. The organization provided a smooth flow of activities and involvement (not pressure) from all. I have been very pleased.

I believe that for three weeks out of a year the children can go off the routine of daily feeding, toileting and behavior programs to go to a recreation camp with other peers.

This was a summer camp for kids where they are allowed to experience many different activities and programs that they would otherwise not be exposed to. Also this is their time to "let loose" as other kids do at summer camp before they have to "hit the books" again at school. Therefore, I feel sufficient emphasis was placed on behavior and such areas as learning new skills.

This program (recreation) is a very necessary change from the classroom atmosphere.

Recreation programs are necessary for every child. - 2

a very good recreation program - 2

the recreation aspect and activities - 3

the special trips where kids wouldn't normally go

the number of outings, e.g. bowling, roller skating, lake

the outings planned for the kids: swimming, Calgary zoo, day camp

variety of activities and variety of exposure children received

We looked at recreation, not just programs.

We provided recreation for the kids and they enjoyed themselves. - 2

Objectives were to provide recreation for handicapped kids and they were met.

The major objective of the summer program was to involve as many children as possible. These children have no major programs in the summer so therefore, our goal was to try and reach as many children as possible. This was achieved during the summer; however, with more staff, our program could have been even more beneficial.

Our goal was to integrate the children into the community and gain partial independendence. All of the children proved to be sufficient in this area.

We are striving for independence among the children and they all proved to do well in the area.

We could take the children out into the community a lot.

My son had something meaningful to do and people to relate to.

We saw some improvements with socialization with most kids.

We feel that this program is by far one of the best in the city, obvious through enrollment. These children need recreational activities as much as any others and our program is open to learning atmosphere and fun.

A program such as this one is very essential not only for "normal" children but handicapped as well.

working with kids - 2

involvement of children

working with a wide range of children and watching them enjoy themselves at camp.

Demands that were made on any of the kids were in direct proportion to what they could achieve. Activities were scaled down to suit the individual when needed.

The objective was to maintain or improve their skills. I feel that we have accomplished this. - 2

Programs were all set up for every child and you knew just what to do at all times. The scheduled programming was a definite asset to the program and helped the children achieve goals in programming in skills and behaviors. The children's achievements have been maintained and encouraged. -3

The children have been happy and the parents pleased. - 2

the individual programs on a one-to-one basis; I felt we were really meeting the child's needs. - 2

opportunity to get to know children before camp

program staff/client relationship

working with the staff

There was always transportation.

When problems with tranportation arose, some parents were willing to help.

Short Programs: Parent Comments

the attitude of the staff and their relationship with the children

communication improvements

The program staff seemed to be very organized and concerned about the children. - 2

the relaxed attitude of the staff combined with the activities the patience and fun exhibited by the staff while teaching

how the caring staff made individuals involved in the program

the people involved in it

My child was happy.

My child looked forward to going each day and was happy when arrived home.

My child enjoyed the days at school and was happy to go each day it was held.

The summer program was excellent! What a summer program shoudl NOT be is a conmtinuation of school and rigid activities. This was definitely well done this year!

tailoring aspect which allowed for individual needs to be serviced

toilet training

emphasis on fun, a break for the kids

variety of recreational activities - 4

The recreational activities were excellent.

the attention received

variety of activities - 6

The children seemed to have experienced a lot of interesting outings.

all the different things the kids did but not for a long time

field trips - 2

seemed to be lots of outdoor activities

good organization

good communication

It got the children working together.

It gave the child something to do during the summer. - 2

The program for us was just right at two weeks; for others it may not be.

length of day fine - 3

swimming - 2

community based programming

getting out among people

I agree with integration for the handicapped but I feel that every so often they shouldn't have to compete with the so-called "normal" child. The program was excellent for this since each child seemed very relaxed and enjoyed the activities.

Our son had a wonderful time. This care benefited not only him but the whole family. Perhaps the best feature was his knowledge that he could be independent. Handicapped children sometimes tend to be too dependent on their families. He learned that he can relate to others.

I feel this program was very beneficial for our children. - 2

This was the first time such a program was offered in out town. I think they offered an excellent program.

What I liked least about the program was ----

Areas that created problems in the program were ---

High Structure Programs: Staff Comments

IEP's weren't always written by people who knew the children.

the amount of extra time required for graphing; staff needs at least an hour after the children have gone to prepare graphs and get ready for the next day

spending so much time graphing

a lot of overtime

trying to watch two students at once

applying reinforcers

lunch-group behavior

the household duties such as dishes, diapers, etc.

better, more strict use of time, lunch hours, etc.

Some staff did not place enough emphasis on programs; I found this hard to deal with as a supervisor.

the apparent need for more staff preparation, seminars, etc.

Coordinating the use of resource people has been difficult (i.e. speech therapists).

lack of information from parents/group homes

some children who appeared "beyond help" (over-medication, etc.)

more aimed to dependent or severely handicapped

too short

Program funding did not come through on time.

Funding wasn't received early enough to do early planning.

inadequate facilities

school layout

location- need space with better outdoor facilities

Due to restricted space, too many children in one classroom.

distance of phone from classroom

High Structure Programs: Parent Comments

not well enough organized prior to program

A home visit was not completed prior to program implementation.

Teachers did not observe the students at home prior to implementing programs.

not enough contact with child beforehand

Expectations of group home and day program in relation to goals and objectives of program differed.

lack of communication

not enough information - 2

the fact that we were asked to phone before going to view the program

That it only ran for six weeks but we would have liked to see the program run longer. - 2

It should continue all year.

Some of the programming methods were too restrictive.

I wish that they would teach more life skills for my child.

would like to see more activities outdoors

My child was left to wear diapers in the program.

She goes to the bathroom by herself at home but often wets her pants at school.

Bus rides: my daughter was on the bus 2 1/2 hours a day

Transportation: 1 1/2 hours on the bus each way is too long for my child's handicap.

travelling distance to and from school; live in Millwoods

I would prefer a shorter day, starting at 10 a.m. as the bus came so early.

no major problems - 2

A lot of questions I could not comment on because I do not know much about the program because have not had time to talk to staff and see the program.

After twenty years of dealing with handicapped and living with them 24 hours what I am most aware of that annoys me the most is the constant lack of communication. These children cannot talk and tell parents what happens at school and parents are constantly being left out. These children very much need a summer program as a continuation of their school program but ALSO they need recreation combined. Like anyone else, they too get tired of studying.

Medium Structure Programs: Staff Comments

problems with rec staff and full time staff

two programs in the same place

facility inadequate, too many stairs - 2 lack of or limited funds - 6

transportation - 11

the instability of depending on volunteer bus drivers

need more volunteers to help on special days (outings)

lack of staff to carry out plans -2

lack of staff for one-to-one - 3

insufficient relief staffing

staff leaving during the summer program (end of job)

booking in more staff for the amount of children

More parental involvement would enhance the program more and raise it to a high standard. - 2

More cooperation and help might be needed from the parents in the future. - 2

the parents' commitment to the program

the parents' role: they let their child have it too easy

too long a program

Too short, one just gets into it and the summer is over.

It would be nice to have the summer program for just 1/2 a day as the younger kids get really tired, hot and restless towards the end of the day.

Some kids were higher functioning than others.

large spread in functional ability of children

extremes in the children's levels

too advanced level for handicapped children

activities or crafts that were too demanding of the handicapped

handicapped children not participating - 2

too much attention paid to handicappped kids

behavior problems - 2

behavior problems in front of the public outings for interaction with the community

Field trips were a problem. - 2

lack of field trips

I would like to see development of skills according to child's capability.

the failure to provide adequate programming of behaviors, somewhat due to the emphasis on recreation

my lack of training in this field

staff disorganization and lack of training in how to deal with specific child's behaviors

lack of experience in dealing with handicapped children

the inadequate preparation by staff

lack of time for planning

not enough time for program

not enough paper work time

disorganization in program - 2

The program was sometimes over-organized which caused some problems.

the children not attending the program and not informing

No set procedure for evaluation and therefore I am unable to give accurate answer to question (achievement of objectives).

not able to spend enough individual time with each child - 2

Everything worked well but in individual instruction did not quite finish.

With children having vacation time there was a break in continuity.

scrubbing tables

cleaning messy pants and diapers

I would like to see more community programs for profoundly handicapped children. - 2

The special needs children could learn more among the natural environment rather than in limited time, too much pressure, in a classroom.

Sometimes the non-handicapped children's attention and activities suffered because one leader had to spend all her time with the handicapped person.

Because of staff changes, I was not involved in planning the program before it started. However, there was nothing really planned to begin with. (I started July 5.)

Medium Structure Programs: Parent Comments

not enough communication to parents on what children were doing

Fees for transportation: since my husband wasn't working, it was hard for us to pay that but it was important for him (the child) to be there and also it's less hard on me since he's getting heavy to lift.

not enough areas worked on

It seemed that my child's programs stayed at the level at which they were at the beginning of summer or showed improvement.

more integration

My child is with lower functioning children as he needs to be with higher functioning children. He needs more work with his Bliss board and to use them when communicating, less songs and colors, etc.

My child does not enjoy "group handicapped" events; therefore, I did not send her to Klondike days, etc..

not enough outings

too early pick-up each a.m. because of different summer driving schedule

not long enough

with more breaks (want child in future summer programs)

helping the handicapped children

I cannot speak English.

taking holidays was a problem

Illness caused child to miss some days.

making lunches

if there was no program

I would like to see the siblings included on trips to special places. I am always hearing, "Why does just ... get to go? It's not fair!" Ours were allowed to participate in the swimming program upon request.

I feel that outings should be planned more carefully and that trips should also take into account adverse conditions, i.e. infestation of mosquitoes, 33 degree heat, etc. Parents take great pains to ensure that their children are protected as much as possible from insect bites, sunburns, cuts and bruises on weekends. Perhaps, the caregivers at school could be a little more sensitive to the child's vulnerability at school.

Lack of advance notice of special events - given seven to ten days notice, I could attend most field trips/swims, etc. This was not the case this year. Most notices were dated well in advance but didn't arrive home until just before the event.

Low Structure Program Staff Comments

The objectives were not clearly stated.

some of the communication within the staff

the special treatment of fellow staff

the unorganized junior leaders

laziness, no enthusiasm in some staff; didn't realize the importance of their job

Staff member not really interested in what he was doing, only in pay check.

When one would say something only one or two people would listen.

There should be more training of staff - 2.

Stress leadership by people with experience and/or education in the field.

Could have used a longer orientation for staff.

inadequate preparation of my own staff - 2

I feel that a workshop for handicapped leaders would contribute a great deal to the program. Also, if we had been hired earlier than a week before the program's beginning, we could have been better prepared.

A workshop on recreation for the handicapped would have helped us a lot.

not having a workshop on something that the children could use their creativity

I would like to have had more inservice and ideas for activities for these children.

sometimes adaptations of games for wheel chairs

More work could have been done to improve motor skills; this would have also benefited the other children.

not enough games

The staying in one program for the whole day as I liked to move from program to program. The interest held better.

the disorganization

large age range

Discipline was a problem.

cancellation of planned activities

other children (problem)

driving, the travel time involved with a few of our activities

Very little information was available to us in order to promote our program and as a result very little promotion was able to be carried out in our special needs community. There was talk of combining our efforts with other communities with the purpose of promoting the programs. However, nothing further was really undertaken this year fromthose communities.

Our town offers a limited amount of activities pertaining to the level of our children.

lack of funding, consequently limiting our access to outside activities

insufficient funding - 6

lack of financial resources for greater variety of programs and skills training and transportation

Had funding for our program come in earlier, we would have had more time to get better organized. As it was we were all hired on a Wednesday and started work the following Monday.

The number of staff possibly, it would have been nice to have a couple more staff. Many things such as changing the children for field trips and having all the children watched and cared for appropriately would have been much easier with a few more staff members.

understaffed - 5

not adequate staff for field trips

lack of written resources

Materials for activities were not readily available - 2.

not enough campers - 2

playground facilities and many rainy days

transportation

Greater transportation resources would have given greater variety to the program and perhaps made it available to more people.

No transportation when wanting to go somewhere and so we had to use own vehicle.

No transportation for children and almost all the handicapped children lived out of town. With transportation I think a lot of them would have attended.

Transportation but being a small town that problem was overcome. Some others would have been full time participants could they have been transported by less expensive, more convenient means.

lack of children attending - 6

inability to do many activities due to lack of children

not enough children maybe because this is the first time for this town

For a program such as this to be of maximum benefit to those attending, I feel it is important that it run for the full duration of the summer, in order to maintain previously acquired skills plus involve the children in a wide range of community and recreational activities.

I think a more extended program would have been beneficial to the children.

In dealing with the statement on improving skills, I think our program is short to see any real improvements.

A longer program would probably be more beneficial for the children and the staff giving extra time to develop communications and programs.

too short, could have been two weeks longer -3

Programs should run from 9:30 to 4 because of short attention spans.

For our handicapped children an integrated program would be too demanding and their skills would not be developed or recognized; higher functioning kids would benefit greatly.

The attitude of the supervisor of the regular playground and most of his staff. They cared little about their own program and even less about ours. Due to (their) complacency there was not as much integration as we would have wanted - 3.

lack of working together with the regular program

two groups working together but doing their own thing

lack of communciation and cooperation with the town - 2

Parents' attitude; most of the parents who had handicapped children would not bring them in. I really feel that parents have to be taught first before their children can benefit.

Parents that wouldn't put their children in the program because of those already in it. There seems to be a stigma to putting mildly handicapped in with severely handicapped.

parents' attitude

lack of parent participation and involvement - 4

the unresponsive attitude of the staff at the group home

There should be more training for recreation departments.

Low Structure Programs: Parent Comments

Staff had no one to orientate them to the children and I'm sure it's difficult for them to handle certain behaviors. They would have benefited by having one of the school staff help them to get to know the kids and their behaviors and how to handle them for at least two weeks. This should be considered for future programming.

staff not sufficiently trained

It would be helpful if persons assigned to specific children coukld meet with parent and child prior to start of program to discuss level of function and type of program the child has been enrolled in during the previous months.

I felt that one of the staff members was not genuinely interested in the best results for the children.

Comunication was a problem.

lack of follow-through from regular program during the school year

too recreation oriented

too many films for my child, doesn't focus in on TV screen is only 4 years old

There could have been more things at my child's level.

There was not enough time given for special project.

not enough variety in the outings and activities

not enough emphasis on game-type activities

My child could not participate in swimming

The afternoon class had swimming while the morning classes attended parks which was a little unfair at times.

The program was held in the school for the handicapped. In my opinion, it should be held on neutral territory. The kids I'm sure were confused by: a) not having the same teachers, b) not having same routine as school, and c) having non-handicapped children with them (which was very good).

Individual programs for handicapped are unnecessary as they should be INTEGRATED in existing programs.

The program started late because no one knew if the funds would be available.

short notice for outings, i.e. what to bring - 2

short notice for the program ending one week before school started, should be longer

not enough discipline

the condition the child came home in - appearance

not enough attention to the child's physical needs

custodial care was poor

We didn't feel welcome when we went to visit the program.

The general health care lacked, i.e., child not placed properly in wheel chair.

Residents returning home after medication time.

lack of integration with non-handicapped

transportation costs

more funding to promote longer trips, i.e. to Edmonton zoo

We felt that the registration fee was a little high and the students' wages were too low. If there were additional costs for field trips the parents would have to pay over and above the fee for registration. Where was the money going from registration fees?

I wish they had a bus for field trips.

I feel there should be a bus especially designed for summer use.

travelling, the shortage of transportation

We had a bit of a problem because we have to drive 13 miles to take our child to these programs

being there right on time

town's little involvement and concern

lack of interest from other children (parents)

Short Program: Staff Comments

negative

What should be done before programs is a training session with summer staff and the regular school year educators in order to help maintain the child's skills during summer.

staff difficulties (1 member)

staff shortage, very limited at times

lack of staff and therefore, lack of skill maintenance

lack of staffing and consistent participation

Parents did not always give us complete information on their child. When problems arose we were unsure how to handle them.

need more information from parents on child

As the program now stands recreation is the major goal. We do try to include individual's skills and behaviors. However, lack of staff seems to hinder the progress that could be made over a one-month period with this population.

I feel that these children need a summer program that centers on individual skill development in addition to providing socialization experiences.

Objectives were made in accordance to what was feasible with existing staff situation.

should have been a bit more control of behaviors

Having mobile kids and ones in wheelchairs sometimes caused problems.

Depending on ... transportation, they were good but it would be nice to go whenever the impulse came.

need a bus or van for transportation - 2

program too short to evaluate behavior and skill improvement

shortness of program with each group having only three weeks-3

program too short - 3

program not run enough days in a week

moving from site to site - 2

It would be wise to put in a telephone other than a pay phone just in case of an emergency. We may not have proper change.

lack of money, low wages - 2

no coffee break

Short Programs: Parent Comments

No one was willing to do anything more than expected.

some communication problems - 2

not much feedback from school (playground)

still relying on arts and crafts which are not meaningful to the child

Some of the activities need better planning.

Some art activities weren't geared to 5-year olds.

The program did not focus on the child's learning skills. - 6

Our children need a structured program all year round. Extra attention needs to be placed on feeding, behavior, toileting.-3

I feel that it is necessary for my child to attend a highly structured program due to behavioral problems.

too recreational oriented - 2

I feel the summer program is of great benefit. However, I feel that programming be kept to a minimum. After all we need a vacation.

the large number of kids to each camp - 2

too short programs - 10

long bus ride

transportation when parent worked or had problems - 2

transportation was expensive

transportation was a problem for some children and they were unable to attend

A summer program integrated with normal children on a regular basis would be more in line with the goals of normalization and of benefit to the kids.

I would liked to have seen some integration with "normal" kids. It's great experience for both.

Appendix E

Results of Impact Study of Immediate Effects on Children's Inappropriate Behaviors

Impact Study of Immediate Effect on Children

Phase 1 Immediate Impact on Inappropriate Behaviors

To determine the immediate impact of summer programming on severely handicapped children in Alberta, 201 school age dependent and multihandicapped children were selected in June, 1983 to participate in a study. These children attended various types of programs during the summer of 1983.

Several questions asked at the onset provided direction for the study. These queries arose from the research literature and the need for Alberta Education to ascertain the value of summer programs for severely handicapped children and the wisdom of continuing to provide funding for them. The question addressed by this portion of the study was:

Do summer programs for severely handicapped children prevent regression to increased inappropriate behaviors or produce a decrease in inappropriate behaviors?

In order to answer this question, observations collected on the Inappropriate Behaviors Observation Checklist were analyzed by program types for each area of behavior recorded on the instrument. Four areas of inappropriate behavior as well as the total score showed significant differences between groups on the adjusted* posttest (post-program) means averages. Three areas of inappropriate behavior, however, did not do so. This was due to the infrequency of occurrence of these behaviors in all program groups.

Inappropriate passive behaviors. Unadjusted mean average scores before and after summer programs were visually compared for each group. Table 92 displays the information on pre-program as well as unadjusted and adjusted post-program scores for inappropriate passive behaviors. For these behaviors, Figure 7 (using unadjusted means before and after summer programs) provides a visual representation of the regression (increase in inappropriate passive behaviors) which occurred in the Low Structure, Short and No Program groups.

High and Medium Structure programs decreased their means, that is, fewer inappropriate passive behaviors occurred in these groups after summer programs than there had been before. However, for each of the Low Structure, Short and No Program groups, occurrences of inappropriate behaviors increased after summer programs, that is, regression occurred.

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*Note. The reader will recall from the discussion in the Methods section that behavior levels were not equivalent for all groups on entry to the summer programs. Accordingly, the pre-test (pre-program) levels were used to adjust the posttest scores to control for initial differences. The method used was analysis of covariance.

Table 92

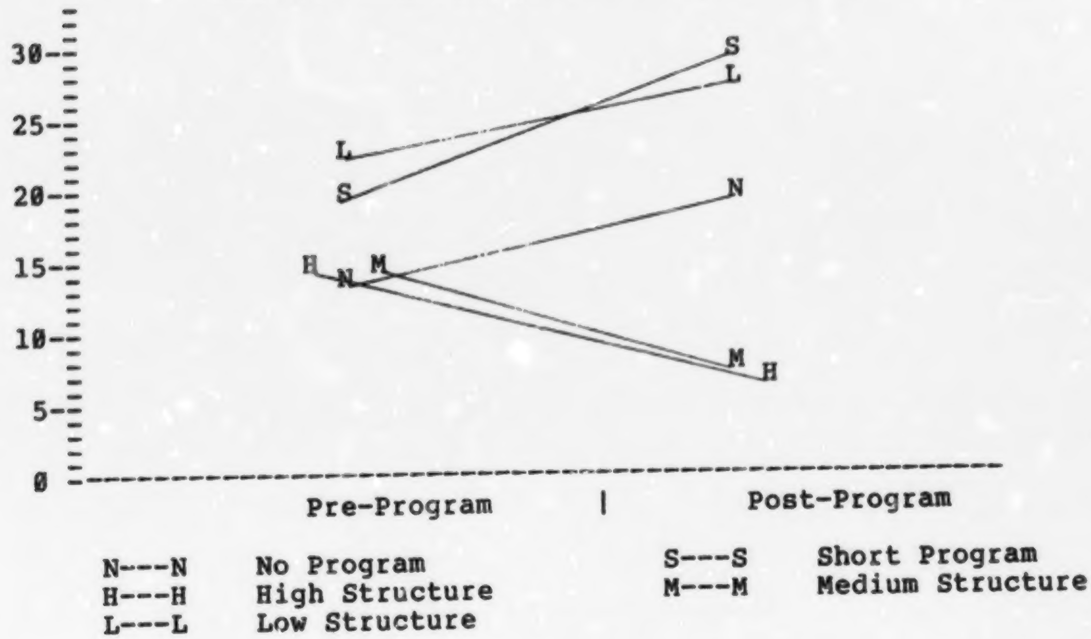
Passive Behaviors: Pretest and Posttest Scores

Program Types	N	Inappropriate Behaviors per 15 min. Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	14.24	20.42	22.69
Short Program	45	20.24	30.20	27.17
High Structure	22	14.36	7.27	9.21
Medium Structure	37	13.65	7.95	10.53
Low Structure	39	22.77	27.92	24.49

Figure 7

Inappropriate Passive Behaviors

Pretest and Unadjusted Posttest Scores



Post-test means were adjusted by analysis of covariance and differences between pairs of programs compared. Table 93 gives the results of the two-way analysis of covariance showing that there were significant program effects (p<.001). The pairwise comparison of groups using Tukey's test revealed that each of the High and Medium Structure programs was significantly better (p<.01) than any of the No Program, Short Program or Low Structure Program groups in reducing these behaviors. There were no statistically significant differences among Medium Structure, Short and No Program groups. There was no significant interaction when age was considered as a factor; all programs affected older and younger children equally.

Table 93

Inappropriate Passive Behaviors:

Two-way Analysis of Covariance

Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	23253.5	1	23253.5	88.2	0.000
Main effects	10623.4	6	1770.6	6.7	0.000
Program	8838.8	4	2209.7	8.4	0.000
Age	623.0	2	311.5	1.2	0.309
Interaction	3299.3	7	471.3	1.8	0.092
Error	49055.7	186	263.7		

Difference Between Adjusted Posttest Means

Pairwise Comparisons

Program Types	Short Program	High Structure	Medium Structure	Low Structure
No Program	4.48	13.48**	12.16**	1.8
Short Program		17.96**	16.64**	2.68
High Structure			1.32	15.28**
Medium Structure				13.96**

* p<.05 (HSD = 5.56 Using Tukey's multiple comparison test)
** p<.01 (HSD = 6.62 Using Tukey's multiple comparison test)

A second analysis of the impact of the various programs in reducing inappropriate passive behaviors involved predicting an expected score for each child and computing the proportion who met or exceeded (based on pretest levels) expectations with the percentage who did not. The significance of group differences in these proportions was tested utilizing chi square. Table 94 displays the percentage of students who deviated in both directions from predicted posttest scores and the results of chi square analysis.

About the same proportion of students from No Program (50%), Short Program (49%) and Low Structure Program (51%) had fewer than or equal to the number of inappropriate passive behaviors predicted based on their entry level scores. There were no significant differences among them. In the Medium and High Structure groups, about the same proportion of children (86% and 87%, respectively) had fewer than or equal to the number of inappropriate passive behaviors predicted for them. There were no significant differences between High and Medium Structure groups.

When combined Medium and High Structure groups were compared to combined No Program, Short Program and Low Structure Program groups, significant differences ($p<.000$) were found. Therefore, a significantly greater proportion of students from High and Medium Structure groups reduced their inappropriate passive behaviors according to predictions than did those from any of the No Program, Short Program or Low Structure Program groups.

Goals of Medium, and particularly High Structure programs, were to decrease inappropriate behaviors as well as to maintain appropriate behaviors. However, behavior change was not a goal of the Short and Low Structure programs and this is congruent with the findings.

Table 94

Inappropriate Passive Behaviors: Deviations from Expected Posttest Scores[a]

Program Types		N	Percentages of Children	
			$\leq$ Predicted Score	> Predicted Score
No Program	(1)	58	50.0	50.0
Short Program	(2)	45	48.9	51.1
High Structure	(3)	22	86.4	13.6
Medium Structure	(4)	37	86.5	13.5
Low Structure	(5)	39	51.3	48.7

[a] Expected posttest scores were derived by the regression of pretest scores on posttest scores.

$\chi^2 = 23.25$; df = 4; p = .0001

Summary of Posthoc Tests

Programs Compared	χ^2	Degrees of Freedom	Probability of Significance
1 + 2 + 5 vs. 3 + 4	21.70	1	.0000
1 vs. 2 vs. 5	0.05	2	.9764
3 vs. 4	0.00	1	1.0000

Inappropriate active behaviors. Table 95 and Figure 8 display the information on means for inappropriate active behaviors. Although the frequency of occurrence of these behaviors in all groups was relatively low, High and Medium Structure programs had reduced their mean scores at the end of the summer while the other groups did not.

Table 95

Active Behaviors: Pretest and Posttest Scores

		Inappropriate Behaviors per 15 min.		
Program Types	N	Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	8.02	8.49	10.81
Short Program	45	13.02	14.09	12.27
High Structure	22	18.18	13.82	9.08
Medium Structure	37	10.51	9.27	9.77
Low Structure	39	9.87	10.59	11.45

Figure 8

Inappropriate Active Behaviors

Pretest and Unadjusted Posttest Scores

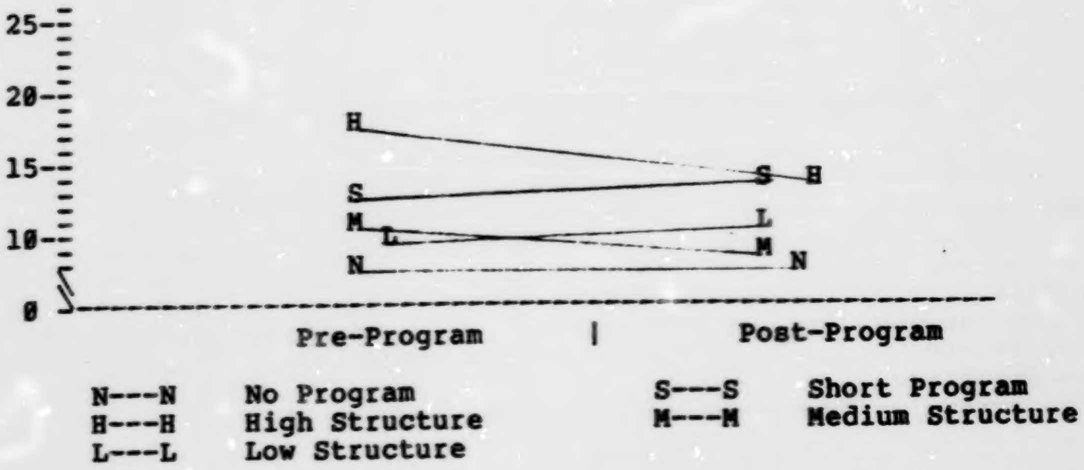


Table 96 gives the two-way analysis of covariance and subsequent group comparison results. When group adjusted posttest means were compared on active behaviors, there were no significant differences among them. None of the programs had a significant influence on these behaviors. However, their occurrence for all groups was relatively infrequent. The unadjusted posttest means varied from 8.49 to 14.09. There was no differential effect according to age; that is, neither older nor younger children benefited from any program when unwanted active behaviors were considered.

Table 96

Inappropriate Active Behaviors:

Two-way Analysis of Covariance

Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	14500.9	1	14500.9	158.8	0.000
Main effects	466.1	6	77.7	0.9	0.532
Program	203.4	4	50.9	0.6	0.694
Age	153.8	2	76.9	0.8	0.432
Interaction	544.8	7	77.8	0.9	0.545
Error	16981.8	186	91.3		

Difference Between Adjusted Posttest Means

Pairwise Comparisons

Program Type	Short Program	High Structure	Medium Structure	Low Structure
No Program	1.46	1.73	1.04	1.8
Short Program		3.19	2.50	.82
High Structure			0.69	2.37
Medium Structure				1.68

Table 97 displays the percentages of children from each program type who had fewer than or equal to the number of inappropriate active behaviors predicted for them, as well as the percentage of those whose inappropriate behaviors exceeded predictions. When deviations from expected posttest scores were compared, the No Program group had the highest percentage of children (74%) with fewer than or equal to the number of predicted post-program inappropriate passive behaviors. Short Program had the lowest percentage (53%); High, Medium and Low Structure Program groups each had about two-thirds of the children attaining the level of behaviors predicted for them. However, none of the differences between programs reached statistical significance.

Table 97

Inappropriate Active Behaviors

Deviations from Expected Posttest Scores[a]

Program		N	Percentages of Children $\leq$ Predicted Score	Percentages of Children >Predicted Score
No Program	(1)	58	74.1	25.9
Short Program	(2)	45	53.3	46.7
High Structure	(3)	22	63.6	36.4
Medium Structure	(4)	37	67.6	32.4
Low Structure	(5)	39	61.5	38.5

[a] Expected posttest scores were derived by the regression of pretest scores on posttest scores.

$\chi^2 = 5.12$; df = 4; p = .2751

Self-abusive behaviors. Table 98 presents the pretest and posttest mean scores while Table 99 shows the results of analysis of covariance for self-abusive behaviors by program types. A comparison of program groups on these behaviors revealed no significant differences among them. There was no significant interaction when age of pupil was considered. A very low level of frequency is evident for all groups; the range in unadjusted posttest mean occurrences was from .30 to 2 for the groups.

Table 98

Self-Abusive Behaviors: Pretest and Posttest Scores

		Inappropriate Behaviors per 15 min.		
Program Types	N	Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	0.09	1.03	1.22
Short Program	45	0.58	1.49	1.44
High Structure	22	0.50	2.28	2.17
Medium Structure	37	0.54	0.30	0.19
Low Structure	39	0.46	0.85	0.79

Table 99

Self-Abusive Behaviors: Two-way Analysis of Covariance

Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	564.8	1	564.8	68.5	0.000
Main effects	86.1	6	14.4	1.7	0.114
Program	64.4	4	16.1	2.0	0.103
Age	19.9	2	9.9	1.2	0.302
Interaction	67.2	7	9.6	1.2	0.325
Error	1533.9	186	8.2		

Difference Between Adjusted Posttest Means

Pairwise Comparisons

Program Types	Short Program	High Structure	Medium Structure	Low Structure
No Program	0.22	0.95	1.03	0.43
Short Program		0.73	1.25	0.65
High Structure			1.98	1.38
Medium Structure				0.60

Table 100 gives the percentages of children who attained or who failed to attain the number of behaviors predicted for them. More than 80% of all groups had fewer than or equal to the number of inappropriate self-abusive behaviors predicted for them. Although there were no significant differences among groups, 97% of the students in Medium Structure compared to 81% in No Program attained fewer than or equal to the number of behaviors predicted for them in this area.

Table 100

Self-Abusive Behaviors

Deviations from Expected Posttest Scores[a]

Percentages of Children

Program		N	$\leq$ Predicted Score	>Predicted Score
No Program	(1)	58	81.0	19.0
Short Program	(2)	45	86.7	13.3
High Structure	(3)	22	81.8	18.2
Medium Structure	(4)	37	97.3	2.7
Low Structure	(5)	39	92.3	7.7

[a] Expected posttest scores were derived by the regression of prestest scores on posttest scores.

$\chi^2 = 7$; df = 4; p = .1316

Inappropriate personal behaviors. Table 101 gives the data on pretest and posttest means, both adjusted and unadjusted. Figure 9 depicts the actual pretest and posttest scores, showing the increase or decrease of inappropriate personal behaviors for each type of program. Unadjusted posttest means compared to pretest means show that No and Short Programs as well as Low Structure groups regressed, that is, increased their inappropriate behaviors in this area. High and Medium Structure Program groups decreased their inappropriate behaviors. The most marked regression (increase in unwanted behaviors) occurred in the Low Structure group followed, by the No Program children.

Table 101

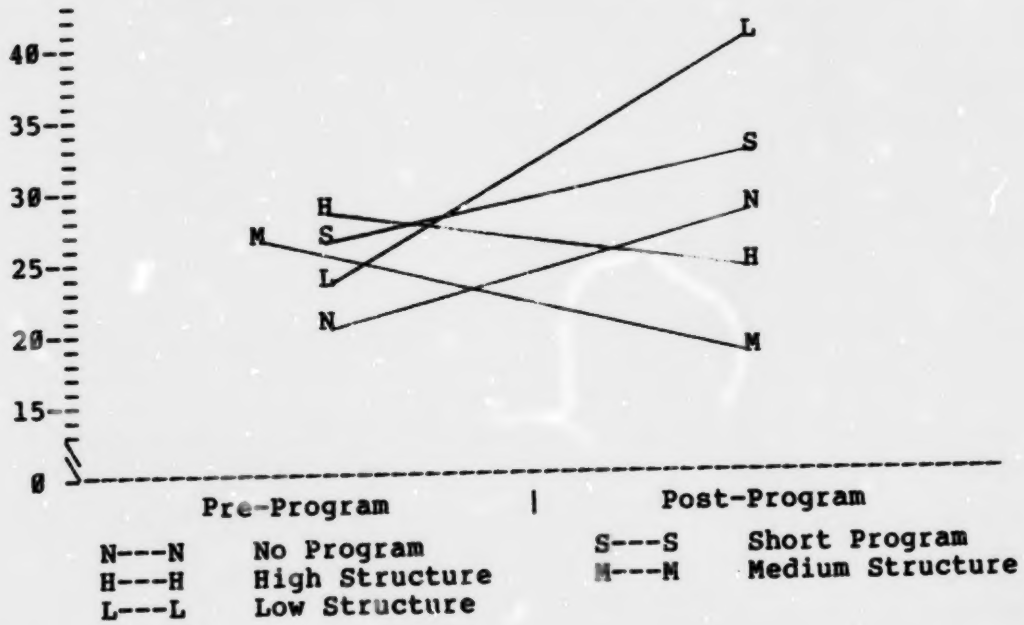
Personal Behaviors: Pretest and Posttest Scores

Program Types	N	Inappropriate Behaviors per 15 min. Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	20.52	28.64	31.71
Short Program	45	26.58	33.36	31.89
High Structure	22	29.09	24.96	21.87
Medium Structure	37	27.16	19.19	17.43
Low Structure	39	23.95	40.97	41.51

Figure 9

Inappropriate Personal Behaviors

Pretest and Posttest Unadjusted Scores



The results of the covariance analysis of the data for inappropriate personal behaviors which revealed significant program main effects ($p<.05$) are presented in Table 102. The subsequent pairwise comparisons using Tukey's multiple comparison test showed that each of High (p<.05) and Medium (p<.01) Structure Programs was significantly better than Low Structure programs. However, differences between and among other groups were not significant. As noted previously for other behaviors, age was not a significant factor.

Table 102

Inappropriate Personal Behaviors:

Two-way Analysis of Covariance

Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	35706.2	1	35706.2	44.9	0.000
Main effects	12732.2	6	2122.0	2.7	0.017
Program	12593.5	4	3148.4	4.0	0.004
Age	44.8	2	22.4	0.0	0.972
Interaction	6622.2	7	946.0	1.2	0.311
Error	147914.4	186	795.2		

Difference Between Adjusted Posttest Means

Pairwise Comparisons

Program Type	Short Program	High Structure	Medium Structure	Low Structure
No Program	0.18	10.16	13.67	9.80
Short Program		10.02	14.46	9.62
High Structure			4.44	19.64*
Medium Structure				24.07**

* p<.05 (HSD = 16.4 Using Tukey's multiple comparison test)
** p<.01 (HSD = 19.5 Using Tukey's multiple comparison test)

Table 103 gives the percentages of students who deviated in both directions from their predicted score, as well as the results of chi square analysis. With chi square testing for significance of differences between observed and expected scores significant differences among groups were evident on this subtest. Combined High and Medium Structure Program groups were superior to combined Low Structure, Short and No Program groups. There were no significant differences between High and Medium Structure and none among the other three groups.

Table 103

Inappropriate Personal Behaviors

Deviations from Expected Posttest Scores[a]

Program Types		N	Percentages of Children	
			≤ Predicted Score	> Predicted Score
No Program	(1)	58	56.9	43.1
Short Program	(2)	45	55.6	44.4
High Structure	(3)	22	68.2	31.8
Medium Structure	(4)	37	81.1	18.9
Low Structure	(5)	39	48.7	51.3

[a] Expected posttest scores were derived by the regression of pretest scores on posttest scores.

$\chi^2 = 10.16$; df = 4; p = .0379

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
1 + 2 + 5 vs. 3 + 4	7.59	1	.0059
1 vs. 2 vs. 5	0.68	2	.7134
3 vs. 4	0.66	1	.4180

Inappropriate repetitive behaviors. Table 104 presents pretest and posttest mean scores, including adjusted posttest averages for each group. Figure 10 graphically depicts the unadjusted scores for each group before and after summer programming. Comparison of before and after summer programming mean scores for each group revealed that no group regressed in inappropriate repetitive behaviors. Short and Low Structure programs retained the behaviors exhibited earlier while the No Program group improved behaviors slightly. The greatest improvement in behavior, that is, decrease in scores on inappropriate repetitive behaviors were in the Medium and High Structure groups.

Table 104

Repetitive Behaviors: Pretest and Posttest Scores

		Inappropriate Behaviors per 15 min.		
Program Types	N	Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	28.41	21.46	22.43
Short Program	45	32.33	31.46	29.25
High Structure	22	37.91	27.63	25.52
Medium Structure	37	31.08	14.57	14.56
Low Structure	39	21.87	21.39	23.68

Figure 10

Inappropriate Repetitive Behaviors

Pretest and Posttest Scores

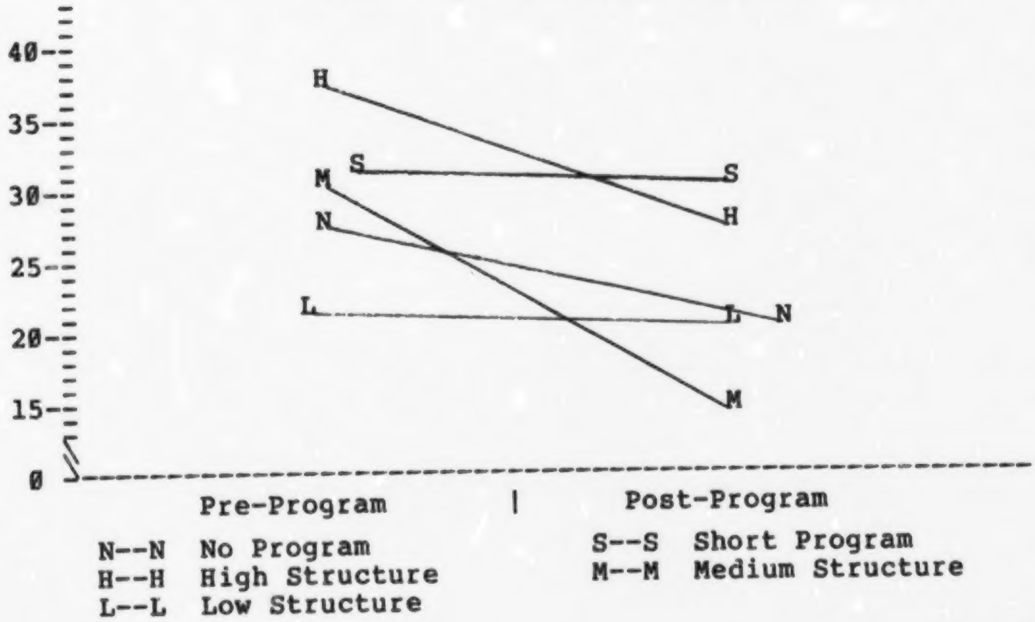


Table 105 shows the results of the two-way analysis of covariance and the subsequent Tukey's multiple comparisons for inappropriate repetitive behaviors. When adjusted posttest means of different program groups were compared on these behaviors, statistically significant differences existed ($p<.01$) between Medium Structure program and each of the others, with the Medium Structure program having the lowest mean score, that is, doing better than the others. In addition, the Short Program had significantly higher scores ($p<.01$) than any of the other programs: High, Medium and Low Structure, as well as No Program. Consistent with the findings for the other behaviors, age was not a significant factor.

Table 105

Inappropriate Repetitive Behaviors:

Two-way Analysis of Covariance

Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	17812.5	1	17812.5	39.1	0.000
Main effects	6870.5	6	1145.1	2.5	0.023
Program	4265.8	4	1066.7	2.4	0.057
Age	1123.1	2	561.5	1.2	0.294
Interaction	5968.0	7	852.6	1.9	0.076
Error	84695.4	186	455.4		

Differences Between Adjusted Posttest Means

Pairwise Comparisons

Program Types	Short Program	High Structure	Medium Structure	Low Structure
No Program	6.82**	3.09*	7.87**	1.25
Short Program		3.73**	14.69**	5.57**
High Structure			10.96**	1.84
Medium Structure				9.12**

* $p<.05$ (HSD = 2.96 Using Tukey's multiple comparison test)
** $p<.01$ (HSD = 3.53 Using Tukey's multiple comparison test)

Table 106 displays deviations from predictions in percentages for all groups, as well as the chi square test of significance among groups. A significantly smaller proportion of children from the Short Program had fewer than or equal to the number of behaviors predicted for them than each of: No Program ($p<.01$), Medium Structure Program ($p<.01$) and Low

Structure Program ($p<.05$). There were no significant differences between any of the other groups.

Table 106

Inappropriate Repetitive Behaviors

Deviations from Expected Posttest Scores[1]

Program Types		N	Percentage of Children	
			≤ Predicted Score	> Predicted Score
No Program	(1)	58	70.7	29.3
Short Program	(2)	45	42.2	57.8
High Structure	(3)	22	54.5	45.5
Medium Structure	(4)	37	78.4	21.6
Low Structure	(5)	39	66.7	33.3

[1] Expected posttest scores were derived by the regression of pretest scores on posttest scores.

$\chi^2 = 14.49$; df = 4; $p = .0059$

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
1 vs. 2	7.31	1	.0068
1 vs. 3	1.21	1	.2719
1 vs. 4	0.35	1	.5545
1 vs. 5	0.39	1	.8444
2 vs. 3	0.47	1	.4907
2 vs. 4	9.50	1	.0021
2 vs. 5	4.08	1	.0433
3 vs. 4	2.66	1	.1031
3 vs. 5	0.44	1	.5074
1 vs. 5	0.78	1	.3769

Inappropriate interpersonal behaviors. The frequency of occurrence of these behaviors was very low for all groups with posttest means ranging only from .24 to 2.80. There were no significant differences evident among groyups. Table 107 exhibits mean scores, while Table 108 displays results of analysis of covariance for inappropriate interpersonal behaviors.

Table 107

Inappropriate Interpersonal Behaviors:

Pretest and Posttest Scores

Program Types	N	Inappropriate Behaviors per 15 min.		
		Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	0.64	0.85	1.17
Short Program	45	1.13	2.80	2.46
High Structure	22	0.86	1.00	1.07
Medium Structure	37	0.78	0.24	0.43
Low Structure	39	1.18	1.10	0.61

Table 108

Inappropriate Interpersonal Behaviors

Two-way Analysis of Covariance

Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	3370.6	1	3370.6	130.0	0.000
Main effects	100.9	6	16.8	0.9	0.532
Program	99.1	4	24.8	0.6	0.694
Age	2.3	2	1.2	0.8	0.432
Interaction	97.3	7	13.9	0.9	0.545
Error	4823.4	186	254.9		

Difference Between Adjusted Posttest Means

Pairwise Comparisons

Program Type	Short Program	High Structure	Medium Structure	Low Structure
No Program	1.29	0.10	0.74	0.56
Short Program		1.39	2.03	1.85
High Structure			0.64	0.46
Medium Structure				0.18

Table 109 gives the prediction information and chi square analysis results for inappropriate interpersonal behaviors. When groups were compared on the basis of children attaining predicted posttest scores, no significant differences were found. Medium and High Structure groups had the highest and Low Structure the highest proportion of children whose inappropriate interpersonal behavior scores remained below or were equal to the level of post-program scores predicted for them.

Table 109

Inappropriate Interpersonal Behaviors

Deviations from Expected Posttest Scores[a]

Program		N	Percentage of Children	
			$\leq$ Predicted Score	> Predicted Score
No Program	(1)	58	77.6	22.43
Short Program	(2)	45	84.4	15.6
High Structure	(3)	22	90.9	9.1
Medium Structure	(4)	37	91.9	8.1
Low Structure	(5)	39	71.8	28.2

[a] Expected posttest scores were derived by the regression of pretest scores on posttest scores.

$\chi^2 = 7.36$; df = 4; p = .1179

Total inappropriate behaviors. Table 110 displays mean scores for total inappropriate behaviors before and after programs, including adjusted posttest means, for all groups. Figure 11 graphically depicts the regression as well as the improvements in total inappropriate behaviors unadjusted scores for the various groups. An inspection of changes in pretest and posttest scores revealed that total inappropriate behaviors decreased in the same proportion in the Medium and High Structure groups. There was regression to more inappropriate behaviors for each of the other groups at a parallel rate.

Table 110

Total Inappropriate Behaviors: Pretest and Posttest Scores

		Inappropriate Behaviors per 15 min.		
Program Types	N	Covariate Mean (Pretest)	Unadjusted Posttest Mean	Adjusted Posttest Mean
No Program	58	65.05	80.86	95.78
Short Program	45	93.71	110.67	97.97
High Structure	22	101.00	73.32	57.53
Medium Structure	37	83.76	51.97	51.12
Low Structure	39	80.10	94.72	96.32

Figure 11

Total Inappropriate Behaviors: Pretest and Posttest Scores

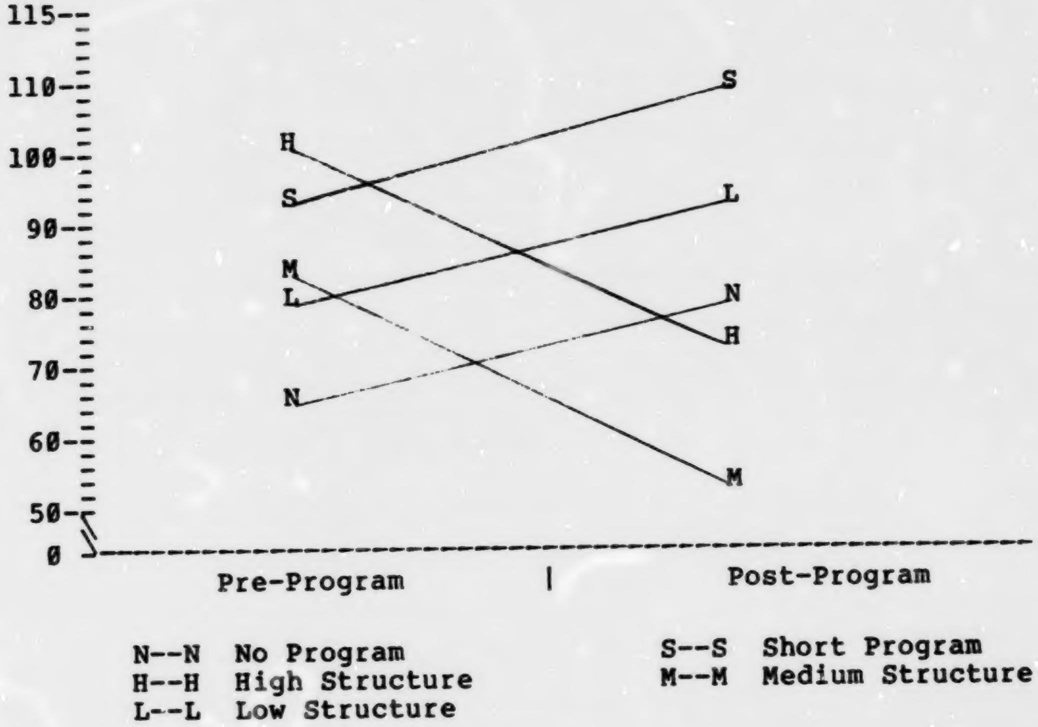


Table 111 displays the two-way analysis of covariance for the total inappropriate behavior scores. Intergroup comparisons of the adjusted posttest means of the total scores on the Inappropriate Behaviors Observation Checklist revealed significantly lower (and therefore, better) mean scores for both High Structure ($p<.01$) and Medium Structure ($p<.01$) programs when compared to any of the No Program, Short Program or Low Structure Program. There were no significant differences between the means of the High and Medium Structure groups nor between the No Program, Short Program and the Low Structure Program. The factor of age was not significant when considered singly as a main effect (p<.07) or jointly in interaction with type of program (p<.315).

Table 111

Total Inappropriate Behaviors: Two-way Analysis of Covariance Program, Age and Interaction Effects

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F Ratio	Probability of Significance
Covariates	185109.4	1	185109.4	155.0	0.000
Main effects	88947.9	6	14824.7	12.4	0.000
Program	74599.8	4	18649.9	15.6	0.000
Age	6439.7	2	3219.8	2.7	0.070
Interaction	9877.9	7	1411.1	1.2	0.315
Error	222103.1	186	1194.1		

Differences Between Adjusted Posttest Means Pairwise Comparisons

Program Type	Short Program	High Program	Medium Program	Low Program
No Program	2.19	38.25**	44.16**	0.54
Short Program		40.44**	46.85**	0.35
High Structure			6.41	38.79**
Medium Structure				45.20**

* p<.05 (HSD = 20.18 Using Tukey's multiple comparison test)
**p<.01 (HSD = 23.96 Using Tukey's multiple comparison test)

Table 112 shows the percentage deviations from expected posttest scores for the total scores of the Inappropriate Behaviors Observation Checklist, as well as the posthoc comparisons with Tukey's multiple comparison test between groups. Chi square analysis of deviations from expected posttest scores revealed no significant differences between Medium and High Structure programs. However, combined they had a significantly greater impact ($p<.001$) in reducing the total inappropriate behaviors than did the combined Low Structure, Medium Structure and No Program groups. Less than one-half of the students in the No Program, Short Program and Low Structure had fewer than or equal to the number of inappropriate behaviors predicted based on their entry level performance while in the High and Medium Structure groups the percentages were 91 and 87, respectively.

Table 112

Total Inappropriate Behaviors

Deviations from Expected Posttest Scores[a]

Program		N	Percentage of Pupils	
			≤ Predicted Score	> Predicted Score
No Program	(1)	58	41.4	58.6
Short Program	(2)	45	40.0	60.0
High Structure	(3)	22	90.9	9.1
Medium Structure	(4)	37	86.5	13.5
Low Structure	(5)	39	46.2	53.8

[a] Expected posttest scores were derived by the regression of pretest scores on posttest scores.

$\chi^2 = 36.02$; df = 4; p = .0000

Summary of Posthoc Tests

Programs Compared	χ^2	df	Probability
1 + 2 + 5 vs. 3 + 4	33.73	1	.0000
1 vs. 2 vs.5	0.35	2	.8374
3 vs. 4	0.01	1	.9269

The results of the statistical analysis of the data on inappropriate behaviors revealed that some summer programs had significant positive effects on behaviors as measured by the Inappropriate Behaviors Observation Checklist. This was the case for High and Medium Structure programs, which had similar good effects on behaviors. Not only did these two types of programs prevent regression to increased inappropriate behaviors, they produced a decrease in inappropriate behaviors. This was the case, in particular, for High Structure programs. Therefore, these programs achieved their behavioral goals as measured by the Inappropriate Behaviors Observation Checklist.

Short and Low Structure programs did not show significant positive effects as measured by the Inappropriate Behaviors Observation Checklist. On the contrary, regression to more inappropriate behaviors was evident in these programs, as it was for the children from No Programs.

However, it must be noted that neither the Low Structure nor the Short Program types had behavior change as a specific goal. Therefore, they cannot be adequately evaluated by assessing behavior change. Other types of measures are needed to show the positive effects of recreational programs such as the Short Program and the Low Structure Program.